



8336

Coll. 739

#9

ACADEMY

NAT. SCI.

PHILA.

MS. 586

1919

4

1921.

S. N

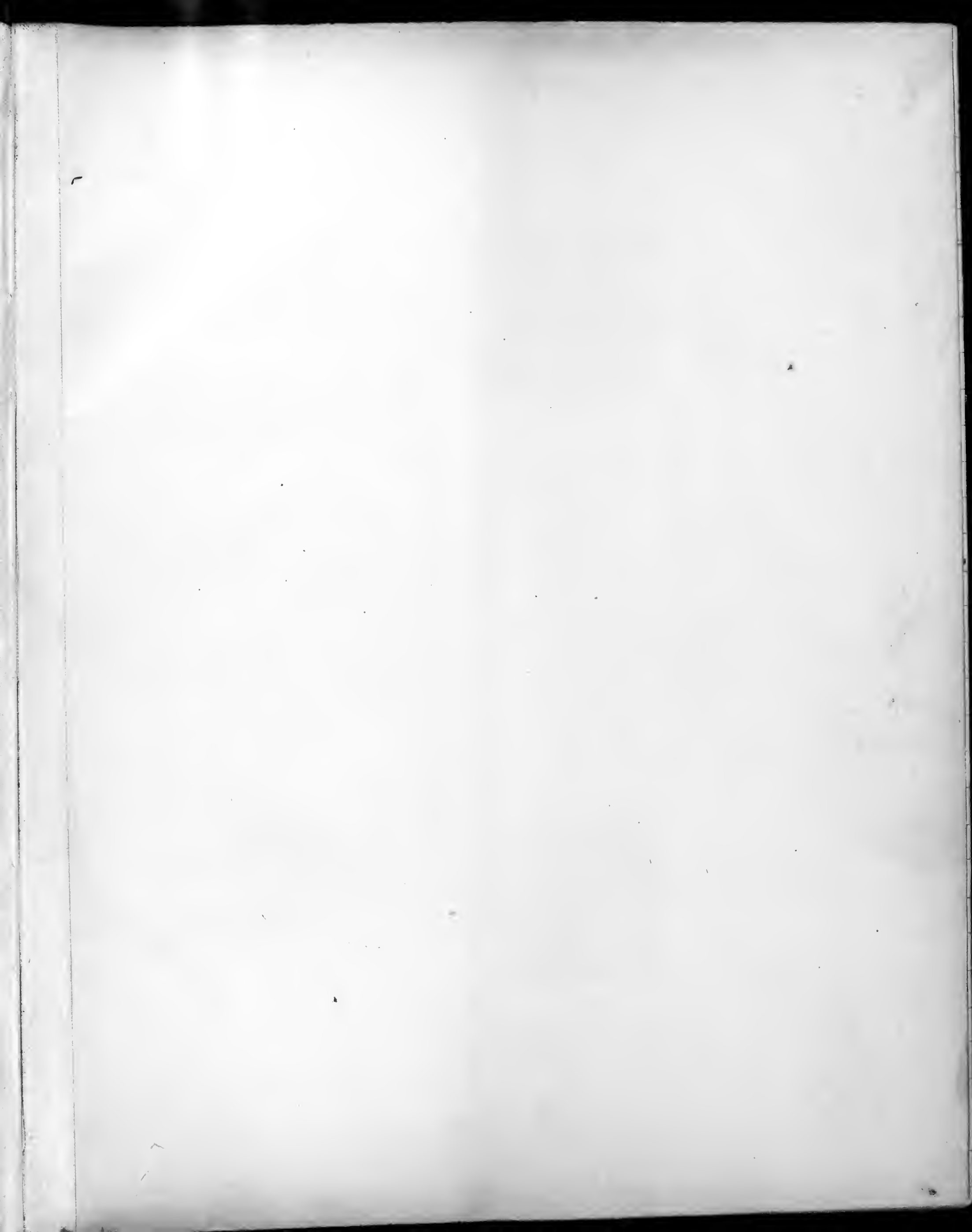


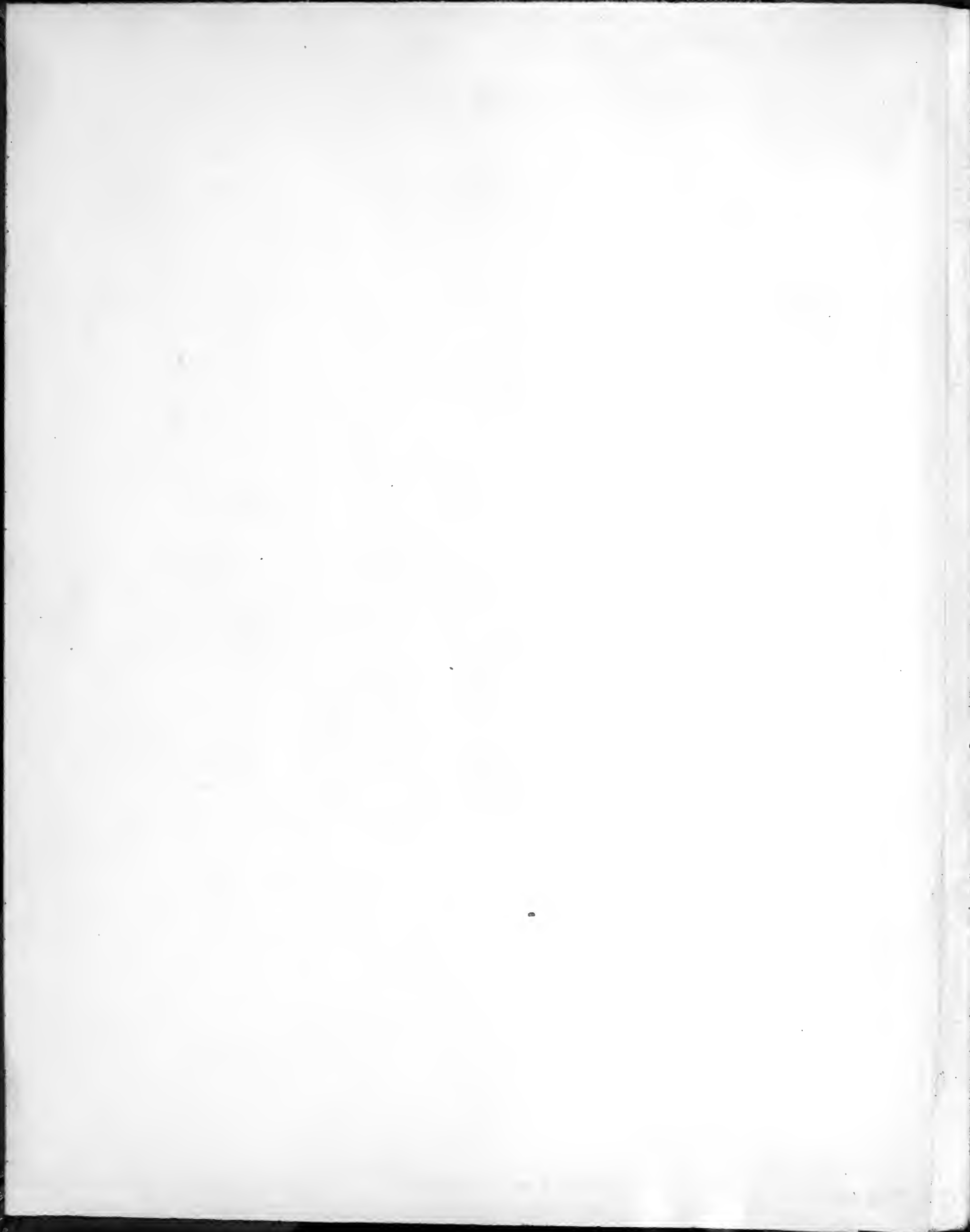
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1921	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	1921	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Jan.	1	2	3	4	5	6	7	July	3	4	5	6	7	8	9
	8	9	10	11	12	13	14		10	11	12	13	14	15	16
	15	16	17	18	19	20	21		17	18	19	20	21	22	23
	22	23	24	25	26	27	28		24	25	26	27	28	29	30
Feb.	29	30	31	1	2	3	4	Aug.	1	2	3	4	5	6	7
	5	6	7	8	9	10	11		8	9	10	11	12	13	14
	12	13	14	15	16	17	18		15	16	17	18	19	20	21
	19	20	21	22	23	24	25		22	23	24	25	26	27	28
Mar.	26	27	28	29	30	31	1	Sept.	1	2	3	4	5	6	7
	2	3	4	5	6	7	8		8	9	10	11	12	13	14
	9	10	11	12	13	14	15		15	16	17	18	19	20	21
	16	17	18	19	20	21	22		22	23	24	25	26	27	28
April	23	24	25	26	27	28	29	Oct.	1	2	3	4	5	6	7
	30	1	2	3	4	5	6		8	9	10	11	12	13	14
	7	8	9	10	11	12	13		15	16	17	18	19	20	21
	14	15	16	17	18	19	20		22	23	24	25	26	27	28
	21	22	23	24	25	26	27		29	30	31	1	2	3	4
May	28	29	30	31	1	2	3	Nov.	5	6	7	8	9	10	11
	4	5	6	7	8	9	10		12	13	14	15	16	17	18
	11	12	13	14	15	16	17		19	20	21	22	23	24	25
	18	19	20	21	22	23	24		26	27	28	29	30	1	2
June	25	26	27	28	29	30	1	Dec.	3	4	5	6	7	8	9
	2	3	4	5	6	7	8		10	11	12	13	14	15	16
	9	10	11	12	13	14	15		17	18	19	20	21	22	23
	16	17	18	19	20	21	22		24	25	26	27	28	29	30
	23	24	25	26	27	28	29		31	1	2	3	4	5	6
	30	1	2	3	4	5	6		7	8	9	10	11	12	13
	7	8	9	10	11	12	13		14	15	16	17	18	19	20
	14	15	16	17	18	19	20		21	22	23	24	25	26	27
	21	22	23	24	25	26	27		28	29	30	31	1	2	3
	28	29	30	1	2	3	4		4	5	6	7	8	9	10
	5	6	7	8	9	10	11		11	12	13	14	15	16	17
	12	13	14	15	16	17	18		18	19	20	21	22	23	24
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	26	27	28	29	30	1	2								





July 20, 1919.

Left Phila. 1.11 P.M. on Penn. Limited. Rain steadily or intermittently for a week. Rain followed us to Pittsburg. We had thirteen cars and a single engine took us over the Middle Division at many places more than sixty miles an hour. At Altona they split our train to get us over the "Horseshoe." We left Pittsburg on time.

July 21, 1919.

We arrived at Chicago 9.00 A.M., changed to A. T. & S. R. station (Heartsman) and had about twenty-five minutes to spare. We left on the Santa Fe "Navajo" at 9.50 A.M. This carried an observation car as far as La Junta - no flowers - so we were not deprived of this, as we had been on the Penn. R.R. We made very good time across Illinois, which was so dry that the dust & dirt was very bad. The day was cloudless and the amount of wheat waiting to be threshed seemed endless. Through Missouri threshing was going on. We arrived at Kansas City at 9.40 P.M.

July 22, 1919. En route. - La Junta, Colorado.
 We breakfasted at Hodge City. ~~from~~
 Kansas at 7.00 AM. (Mtn. time).
 The wheat hereabouts had largely
 been threshed, and the rains had
 been so heavy that we heard complaints
 in that sense. We arrived at La
 Junta at 12.30 P.M., and got our
 accommodation at the Harvey System
 Hotel, where we had stopped before.
 After lunch we got a jitney and went
 out to the bench of the plains north
 of the river, where the Simpas Limestone
 forms rocky hills. We worked in these
 hills and the loamy surface north
 of the bedding hills. There had been
 much rain and the loam was much
 baked in most places. We had very
 good success and I also saw a Sprague's
 Pipit and a night hawk (sp ?) The
 Pipit ran along quite close and held
 itself very erect. The night hawk
 I flushed, possibly from a nest as
 she hung about the same spot. In
 the evening, while I put up stuff,
 H. went out with the light-jitney and
 got some fine Creomys south of
 here.

July 23, La Junta & Trinidad, Colorado.
1914.

We had our guide, man take us out about a mile east of town where we worked for about two & a half hours in the low, sparse vegetation of rolling plains, much grazed, and down along the Arkansas River, in river bank woods and sedges. 14.

Fish 1 mud waded out to a sedge island

Exp. 1 which yielded several species we

Fish 1 had not taken so far at La Junta.

Peak from After lunch we left La Junta at edge of mesa. 1.40 P.M. for Trinidad, where we

most of arrived about 3.45. On the way we

Trinidad had a splendid view of Spanish

Stop 16 Peaks off to the west, a towering bifid Snap. cone, which changes as the road

turns & twists, now seeming little cleft and now very deeply cut. Straight ahead stands out Fisher's Peak

near Trinidad, a land-mark with its elevated mesa bench summit.

After getting installed in the "Cardenas", we struck for west and work up the

slopes of the mesa west of town, up the crumbling sandstone slopes,

slippery with loose slabs, and about on the level, park-like summit,

which is dotted with piñon and juniper, which also cloth the slopes.

The top apparently has a good amount

layer, which supports the fine grass.
Coming down we descended a north-
facing slope, which was more
heavily wooded with a decided
humus layer, when compared with
the south-facing slope we had
ascended.

Arkansas Kingbird. Numbers at La Junta.
had nests in telegraph poles - noisy -
all (i.e. just) flying.

M. Horn - Squirrel at La Junta & betw. La J.
& Trinidad.

July 24,
1919.

Fisher's Peak, Ratón Mesa, Colorado.

We left the "Cardenas" at 8.00 AM. in a
machine, which was to take us as near

Film 1 Fisher's Peak, which is due east of Santa

Exp. 2. as they can get a car. We circled the

Easter point

of Bartlett

Mesa, which is really only a remnant of

Canyon of

Gray Creek,

taken from

Fisher's Peak

at approx

8800 feet.

Exps 16

Summ.

Ratón Mesa, which reaches a height

of over 9500 feet, the upper rim being

just as so being nearly vertical walls

of volcanic material, which forms

the highest top of Ratón Mesa

which has very persistently existed

ever since. The drive took us up

Gray Creek Canyon to the little mining

settlement of Gray Creek, which is

Film 1
 exp. 3.
 summit
 + Fisher's
 Peak,
 mountain
 taken at
 approx.
 9000 feet.
 Stop 16
 map.

Film 1
 exp. 4
 characteristic
 of the
 mountain
 under
 of Gray
 Creek
 Canyon
 at approx.
 1500 feet
 looking
 up canyon.
 Stop 16
 map.

at an elevation of 6700 feet. The peak
 is three miles away, but the roads
 and trails are very poor, unmarked
 and encumbering, so that it is
 a good six miles to the peak by
 trail. We worked up the old road
 which follows up the canyon to
 about 8000 feet, then turning sharply
 to the right struck the peak.
 Before doing ~~it~~ this we lost the
 road and got about seven hundred
 feet higher up on the eastern slope.
 Following what were merely cattle
 trails on a very steep slope we
 passed a small lake at 8800 feet,
 and pushed on to 9000 feet, where
 we could see the remainder of the
 ascent had exactly similar vegetation
 or else was composed of precipitous
 rock slopes. We worked back down
 cattle trails to the canyon road
 and then down to Gray Creek, where
 we found the machine and were
 soon back in Minidac to a good
 dinner. We had good results and
 took one specimen (*Mesobryana*
cornutaria) which we had never
 taken before.
 The silver juniper tree is on the

hills surrounding Trinidad, at an
 elevation of 5000 feet. This condition
 runs up into the benches to Dry
 Creek, but it is interspersed with
 patches of rabbit wood, and is always
 scattered and park like. At that
 distance about Dry Creek, at
 about 6000 feet, we noticed scrub oak
 areas, scattered over large expanses
 of rabbit wood plains condition. The
 oaks become nearer and almost
 continuous, and the last patch of
 plains element, i.e. rabbit wood,
 was noticed at 7000 feet, along the
 road. The oaks have many locusts
 scattered through them, in some
 places the stands almost pure. At
 about 6400 feet the first scatter of
 firs were seen, and above this they
 became more numerous with distinct
 patches in the gullies with streams.
 But few bull pine were seen. At
 about 7800 feet the aspen became
 evident. About the Lake at 8800 feet
 were quite a few firs and above this
 was oak scrub with scattered fir,
 reaching to the precipitous rock walls
 of the peak.

Magpie. Six, or two. Trinidad + Gray
 very crossed - ay. ^{Crab.} At a number of our
 Fisher's Peak are young
 hardly able to fly.

Woodpecker - like 3 Ford, pure white
 underneath. at 1500 feet
 in Gray Creek canyon.

Chickadee heard at 9000 feet.

Rattlesnake killed at 7200 feet in
 oak scrub. Length about 4 feet.

July 25, 1919. Trinidad, Colorado to Santa Fe,
 New Mexico.

In the AM. we had a jitney take us out
 several miles south of Trinidad, to a
 point on the mesa where scattered
 pine and juniper were in evidence.
 Here we worked for three hours at elev-
 ations ranging from 6500 to 6700 feet.
 The yield was fair, but not exciting, and
 we did not find several of the Gray Creek
 species we were looking for. We had a
 wonderful view off to the West - the
 Spanish Peaks bare of snow, but the
 vast background of the Sangre de
 Cristo range with much snow in
 the canyons. This great range is
 most impressive, far more so than
 the relatively nearer Spanish Peaks.

We left Trinidad at 3.40 P.M., bound for Santa Fe. We had dinner at Las Vegas and arrived at Lamy at 11.20 P.M., on time, although we had left Trinidad 55 minutes late. The spur train to Santa Fe had to wait for a western connection, due at 12.30 A.M., which did not arrive until 1.00, and it was about 2.30 when we arrived at Santa Fe. On the way up on the train we had a long talk with a Sheriff of a southeastern Colorado county, who was bound for Santa Fe on requisition papers for a man known to be near Silver City, who was wanted in Colorado. He was quite a character, quiet, but the last man you would want after you.

July 26, 1919 Santa Fe to Saddle at base of Santa Fe Baldy Peak. (elev. 11000 ft.).
We arose at 7.00 A.M. after a few hours sleep and after breakfast Monday went out and made full arrangements in our trip to Santa Fe Baldy. We left at 7.30 P.M., three saddle horses, a pack mule and outfit. One guide and cook joined the outfit. He was an ideal fellow, a man of considerable

education and an ^{ex} Forest Service man. Morgan and I had splendidly gentle horses, which were thoroughly trail trained. Our trail wound over the hills, through β piñon and juniper, into a canyon which grew deeper and deeper, as well as steeper and steeper and a few scattered pines, then more & more became evident. We continued to climb and entered the Canadian fir and aspen, up and up, over steeper grade, hour after hour, turning & twisting, with glimpses now and then of Lake Peak (12380 feet) and Santa Fe Baldy (12623 feet). We got closer and closer to Baldy and finally at the saddle between Baldy and Lake Peak we made camp at ~~8000~~ 10000 feet. The view to the west was wonderful, over the Rio Grande valley, with the Jemez Mts to the west, the Sandia and Ortiz Mts to the south, while away off to the N.W. we could just see San Antonio Peak, west of Antonito, Colorado. Our camp was in the Hudsonian timber, fir, much of which was burned many years ago and is now largely windfall. Above us towered Baldy Peak, while around us were meadowy glades in the timber. The route to the

Mist was wonderful and we talked and sat around the fire until well after 11.00 P.M. The afterglow of the sunset was wonderful.

July 27, Santa Fe Baldy to Upper Desuque Creek,
1919. Santa Fe Range, N. M.

The morning was very cool, in fact I had
Film #1 difficultly keeping my feet warm during
No. 5. Lake the night with 2 blankets to sleep in.
Peak from very shortly after breakfast we had a
N. i. e. so. visit from a whiskey jack and a least
slope of measel, who ran under our tent and
Santa Fe was collected in consequence. At
Baldy - elev. 11,500 feet.
16 stop snap. 7.30 AM. I started up the slopes of Santa
8.05 AM. Fe Baldy, Morgan having preceded me by

No. 6. Santa about ten or fifteen minutes. The going
Fe Baldy was bad, boggy meadows and nearly
peak from a thousand feet of completely burned &
S. from fallen timber. At 11,000 feet up breathing
shoulder is difficult under exertion, and the high
at 11,900 feet. stepping on the trunk was a heavy tax
16 stop snap. 9.30 AM. on my breathing. I reached 12,000 feet,
9.30 AM. or about a hundred feet above timber-line
measel and saw Morgan descending. As
Caught I knew from this that he had little
running success, and that we wished to
I am under push back, turn down, into the Canadian
tent. ♀ Zone, joined him and we returned
Unable to follow. I joined him and we returned
thull damaged.

to camp. The Herdsonian and Arctic-alpine larches, about camp and to and above timber-line, were wonderful in variety and color. When we arrived at camp it was evident we were in for a storm, and it struck us immediately after lunch, and delayed our return start until 1.30, when we set off in the rain, which continued as a drizzle for the better part of an hour. We worked at 10000 feet, again at meadow at head of Chupadero Creek at 8500 feet and camped in Tesuque Creek at 7900 feet. We had threatened rain but no developed more than spits.

Raven. One on peak & one in "saddle".
 Ruby Mtn. Jay. One at "saddle" camp
 completely Blue-bird. One in dead
 timber near "saddle".

Least Mousel. One killed at "saddle".

July 28, 1919. Upper Tesuque Creek to Albuquerque,
 N.M.

Film #2. This morning our horses had quietly
 decamped and it took an hour to
 round them up. Finally at 9.30 we
 started down the trail, stopping to
 work at about four places, while high

no. 1.
 Environment
 at upper
 Tesuque
 Creek Camp.

up it was steadily storming. We reached Santa Fé at 1.00 P.M., packed, made the 4.20 train, ran through rain part of the way to Lamy and again between Los Cerillos and Blomington, arriving at Albuquerque at 7.35 P.M. We put up at the Alvarado.

Long Crested Jay. Linnas at Upper ^{Desempe} Camp.

July 29, 1919 Albuquerque to Tijeras Canyon, Sandia Mts., Arizona, New Mexico

File # 2, At 9.00 AM. we left the "Alvarado" in the no. 2.

Environment a machine, which we had hired, to high. with driver, for all day. We first stopped point reached about two miles east of Albuquerque, in side canyon in rabbit-weed patches, with much of Tijeras trouble weed. Here we had fair success. Canyon. Spharag.
No. 3.

Environment The whole country has had much rain recently and the fungus had killed many thousands of immature grasshoppers and some few adults. in lower Tijeras Canyon.

Most ch. platter etc. From there we push on to Tijeras

no. 4 Canyon, between the Sandia and Mangano Mountains, to the little Environment on mesa at most foot of Sandia Range. village of Tijeras, at an elevation of 6500 feet and around on the S. E.

Plagiostoma, side, of the Sandias. Here we worked etc. in juniper & pinyon and in rabbit weed and on rocky ledges. The driver

✓
 Alcoholic no. 1.
 Crotophytus
 Mesa at
 west foot
 of Saluda
 Mts.
 July 29.
 1919.

worked the machine, a Cadillac, up
 a very steep side canyon and we
 did some work at 6500 feet, in
 heavier juniper with some maple
 and scattered pine (bull). Here
 we got a striking Sparagnum of the
 bolli type. In the return trip we
 worked first near the mouth of
 the canyon, on slopes with much
 rock, next on the mesa just west
 side of the mts., where we got among
 other things Plagiostria, 1 P.R. 1 ♀
 H. Rust we worked in country very
 similar to our first morning stop,
 and here I got another Plagiostria.
 We arrived at the hotel at 5 P.M., and
 had probably the hardest push we
 have ever had to get our material
 finished, packed, eat and attending
 to baggage by 8.30 P.M., when we
 left for Winslow, Arizona on the
 Sleeper.

Wesley Park. Several on mesa.

Crotophytus collaris. One in lower
 canyon.
 " wislizenii One coll. on
 mesa at foot of
 mts.

July 30, 1919.

Alc. No. 2. Winslow, Arizona.

Crotophaga: We arrived at Winslow at 7.00 AM and
 Holbrookia 4. Some were installed in the Santa Fe
 Hotel 1. Harry House and had a good breakfast.

Film # 2. We struck off to the south across the
 No 5. red silt, which is the weathering of the
 Enormous underlying Mesozoic shales. To the
 at Winslow. northward and southward extends the
 West. friends strip of the Painted Desert, but it is
 etc. especially interesting to the northward,
 where afar off to the north east rise
 the buttes and mesas of Tusayan, the
 Hopi country, weird in color and with
 the play of cloud shadow upon it. We
 worked off to the south well over two miles
 and had very good success, picking up
 much not previously known from this
 part of the country, also quite a few
 lizards. After lunch we struck off north
 toward the little Colorado River, which
 is the center of the Painted Desert, and
 worked for about three hours. We left
 Winslow at 6.30 from Flagstaff where we
 arrived at 8.19 P.M.

Lizards taken.

Killer at slough near Winslow.

July 31, 1919 Flagstaff + San Francisco Peak,
Arizona.

Alcoholic
no 3.

Phrynosoma.
N. W. slope
of San
Francisco

Peaks
at
9000 feet.

We changed hotels at midnight following
Morgan's discovery of a large,
effective and active colony of
Cimex. The best we could get was
two beds in an old sun parlor in one of
the hotels, but these were clean and we
~~quite~~ slept soundly. After a good break-
fast at a Chinese restaurant we started
with a machine + driver to get as far
up on San Francisco Mountain as we
could get with a car. From Flagstaff
around to the west of the peaks and
up to about 9000 feet extends the won-
derful bull pine forest of the Coronado
Plateau, mixed at its higher levels with
western white pine. At slightly above
9000 feet ^{aspens becoming evident, and here} we reached the highest point
we could get with a car, and from
this stretched for about two miles
and up for a thousand feet an
open mountain meadow, known
locally as Hart's Meadow. The day
was gray, with little sun and drizzle
which turned in the afternoon to
heavy thunder-storms, the peak being
largely in clouds. We crossed this
meadow - M. + I. - got very much
interesting material, entered the

aspen and fir above it and worked
 up some hundreds of feet through
 dripping vegetation. We had no
 luck in the forest and we returned
 to the meadow to work back to the
 car far below us. We had reached
 about 10,000 feet on the west side,
 very close to the upper edge of the
 Canadian and the lower edge of the
 Hudsonian zones. On the way back
 we stopped in the upper pine forest
 and in the forest on the plateau,
 with but moderate success at the former
 and almost none at the latter. We
 ran through a heavy thunder-storm
 near Flagstaff, and were very
 thankful we were not on the horrible
 mountain road at that time. We
 had a good dinner at an Chinaman's,
 and left about 9.00 P.M., for Ash Fork,
 arriving about 11.00, getting comfortably
 housed at the "Escalante", the
 Harry House.

Albert's Squirrel. Two in the pine forest.
 Large ground sq. or (?) prairie dog. Yapping
 in the high meadow. Saw one relatively
 low down, which ran like a marmot.
Callospermophilus. Common in timber,

Red-shafted Flicker. In pine forest.
Night Hawk. Two at Flagstaff.

Horned Lark. Blue Tanager.

Aug. 1, 1919. Ash Fork, Arizona. Elev. 5000 feet.

After a good breakfast we started off to the northwest, working toward a low hill of volcanic material with scattered junipers on its slope. The day was gray with little sunshine, as off to the west in the plateau it was evidently raining steadily, while to the west, in the desert, the sun was shining most of the time. We had fair results, but nothing startling. After lunch we covered a short distance due west of town to and around a cinder cone which is being utilized for railroad ballast. This trip was very unproductive and we returned to the hotel about four, put up material, packed, had dinner and left at 6:20 for Kingman. The trip was most interesting and also protracted. We crossed the Aubrey and Grand Wash Cliffs, working down toward the Colorado, through

Alc. # 4

Snake.

Alc. # 5

Phrynosoma

-Spica.

Snake in

lawn latter

in little

pocket under

sheet of line.

several long canyons. In the canyon just west of Valentine we passed a freight wreck, where two engines and thirteen cars had jumped at a wash-out, killing one man and making mince-meat of the cars. At Hachburg we were held by wash-outs ahead from 8.45 P.M. to 4.30 A.M. We were in the bushes, as we could not get in the Pullmans, on account of their being full, and it was anything but a comfortable night we passed. I did some good work out on the hills with the flash-lamp. We arrived at Kingman about 5.00 A.M., were installed at the Beale Hotel and soon had a little more sleep. *Cerychamps*. *One under*
Rock Men. *Signal at Ash Fork* ^{*stone at*}
Great Blue Heron. *One flying parallel*
to the train for some distance near
Seligman.

Aug. 2, 1919. Kingman, Arizona. Elev. 3336 + feet.

After several hours of fitful sleep we
 A. # 6. arrive at 8.00 A.M., had some breakfast
 at a Santa Fe eating house and
 then struck out. The vicinity of King-
 man is what I would call high desert,
 with *Cirilla*, ~~*granita*~~, cholla, a

- 1 *Sceloporus*
- 1 *Uta*
- 2 *Cnemidophorus*
- 1 *Crotaphaga collaris*

few rotillas and conyuas, the hill close to the town go up about a hundred & fifty to two hundred feet, while off to the S. E. is the high Hualpai Mts (over 2000 feet) and to the north rises the lower, but economically important Cerbat range. By now we had picked up most everything we could expect, and upon inquiry we found the west bound train had been cancelled, on account of a bridge out at Gallup. There was, however, a freight going down to Needles some time in the afternoon, and we were told we might go on it. The freight pulled in about four & left about four-thirty, but before it left we saw the caboose of an east bound freight, put back on the track after it had jumped a switch. Riding in a caboose at the end of forty cars is not an unalloyed pleasure, for the taking up of the slack of a long train is enough to throw you across a car. We arrived at Needles at 7.30 P. M. and had a harrowing experience carrying bags to the hotel from the end of the freight. Needles was living up to its reputation, and

at 9.00 P.M. it was 98° outdoors.
 M. had a good room + bath at the
 "Guerras" and retired early to
 try to sleep + perspire.

Desert Sparrow. One.

Salpinctes
Cnemidophorus
~~Uta~~
Crotaphytus uittatus

} as collected.

Aug. 3, 1919. Needles, California.

In the morning I had an upset stomach
 as I got up, but a good dose of salt water and
 one of Ungar's headache pills fixed me up.
 However, it was though best for me not to go out
 in the field in the A.M., so I stayed in and
 worked on prof. M. returned at noon with
 some interesting things from the foothills,
 such as *Dytthodyte*. The day was exceedingly
 hot, probably 110° in the shade and any
 effort was undesirable. After lunch we
 went down into the river flats and
 worked for about three hours in the arrow
 weed and rushes and on the mud
 flats and in a sand area. Results
 were fair but not at all exciting. We
 slept on the porch on cots in the evening.

Aug. 4, 1919. Needles, California.

Film #2. Arose about 6.45 AM., and after breakfast
 No. 6. at 7.30 we were ^{sent} out on the desert
Poecilotettix mesa west of the city about a mile
 plant, most and a half. We had a car take us
 of Needles out and leave us, and we worked until
 Stop 16 12.30, four hours of steady broil. The
 Snap. heat was very great, but we stood it a
 no. 7. great deal better than I had expected
 Arrays in which some of the results were splendid.
 grow - union - fitting & splendid series of *Dytiscidae*,
 ment of and of *Poecilotettix*, as well as several
Danaoerues nymphs of *Danaoerues*, exhaustive search
Poecilotettix failing to reveal adults of the latter.
 a *Dytiscidae*. After lunch we put up stuff, packed
 Stop 16 a shipment of nine boxes back home,
 Snap. packed & checked our trunks to Beatty
 no. 8. and repacked our baggage. Then we had
 JGR. just enough time to get our dinner
 in action and catch a stub train running from
 same place Needles, Arizona to Los Angeles, in which
 we were going to travel to Goffs, Cal.,
 31 miles west of Needles and 2000 feet
 higher. The pull up out of the Colorado
 Valley was interesting and it was a
 steady pull all the way to Goffs.
 There we got quartered in the little hotel,
 which was rough but clean.

Autelope Ground Squirrel. One at Needles

Jack Rabbit. One at Needles.
Apparently Pom-will - a Whip-pom-will
type - 2 in shade of bluff on Needles
mesa.

White-necked Raven. Found along R.R.
track betw. Needles & Goffs.

Aug. 5, 1919. Goffs, California. Elev. 2584 feet.

Acc. # 7

2 Callisaurus

1 Cnemidophorus

1 Scorpion

Film # 2

No. 9.

Environment

at Goffs -

looking

with

3.30 P.M.

20 stop

instant.

We arose at 6.45 P.M. at a splendid
night's sleep, so cool at early morn
that a quilt was required. After
a good substantial breakfast we
struck off to the south, across the
grass-covered slope, gently rising to
the low granite & basalt hills to the
south $\frac{1}{2}$ to 2 miles. We worked to
the top of the hills at about two miles
distant and back to town, spending
about two hours in the field. Until
ten o'clock it was not warm, but
after that it warmed up considerably.
We had very satisfactory results,
altho only by hard work & steady
beating. The view from the top of the
hills was very fine and extensive,
looking over the deep Cadiz-Bagdad
depression to the ^{south} west, the northern
portion of the Providence Mts. to the
west, the mts toward Barrow &
Laetah to the NW and to the N.E. &

west the head Mts and Sacramento Mts and far away across the Colorado Valley the tops of the Annapai range in Arizona. After lunch we put up material and then spent some time in the field, on the plain to the north, with very poor results. Finding it was impossible to get out west before morning, we planned to go there. The afterglow in the evening was really wonderful.

Antelope Squirrel. One.

Goldfinches. Several.

of Sanagers - orange with faint line through eye. One at hotel garden.

Aug. 6. Bagdad, California. Elev. 787 feet.

1919.

We managed to get a train out at 9.30 AM. and travelled to Bagdad, sixty miles to the west. The route was down into the very hot and arid Ambry - Bagdad basin, certainly one of the hottest places in the United States. The vegetation is similar but sparser than in the country higher up, as at Joffo. We arrived about 11.15 AM. had lunch and stored our bags with the Chinamen who ran the eating house and struck south toward the sink

about ~~2~~^{two} miles and a half away and
 about 150 feet lower than Baghdad station.
 The heat was terrific and water
 was in regular demand. The results
 were fairly good, altho' almost all of the
 species had been taken by us elsewhere
 as Jiffs & Needles. The vegetation was
 grassland and three or four species
 of spiny or very bushes, samples of
 several of which were collected, and
 several were also much frequented
 by Orthoptera. A stiff breeze blowing
 from the east in a measure alleviated
 the intensity of the heat, but the 3 hrs
 & a half we stayed in it was about
 all we could stand. There was no
 shade except such as we made by
 laying our nets in the grassland
 bushes. After five o'clock we went
 out again for a hour and a half
 and got more material of the
 more desirable species taken earlier.
 We had supper with the Chinks, a
 very good one, and left at 10.40 P.M.
 for Basra, where we arrived at
 1.30 A.M. The pull up out of the dep-
 ression was a hard one on a single
 engine, as we had eleven cars, but we
 did stretches in one along, making up
 thirty in minutes and more late.

Brown's Blackbird. A small bunch in
cattails about a tank
overflow at Bagdad.
Kildeer Pair at ditto.
Linn. Small " "
Shrike One at Juffs.

Aug 7, 1919 Barstow, Cal. Elev. 2000 feet
We were quartered at the "Harvey
McC. & House" "Casa del Mesiero" and we had
called for breakfast about 8 AM. We started
off to the south and worked on the
red siltstone hills south of the town, getting
very little and then out on the silt slopes
beyond, securing a little more. Grass
and made up practically all the
vegetation on the hills and a considerable
proportion of that of the slopes. The
day was fairly hot, but not a "Bagdad"
day by any means. After lunch we
put up material and then spent a
good three hours working the river bottom
vegetation and the bare sand areas
in the flood plain. It was all fairly
rich, but the sand areas were ex-
ceptionally interesting, as they yielded
a good series of Crinoids. The water
in the Mohave River reaches just to
~~Mohave~~ Barstow at this time, and

There it is held back by pilchard built in the river ~~to~~ bed, out of sand bags. The drift of the river ~~and~~ is evidently considerable, as extensive wire and brush barricades have been placed in echelons, apparently to protect cultivated land on the opposite (north) side of the river. Cottonwoods, arrowweed, hackberry and other trees make up the vegetation along the flood plain. After putting up stuff we retired early, for an early rise.

Black-necked Stilt. One in Mohave River Slough.

Killdeer. One in dinner.

A White-bellied Noddy, either in a tree, in dunes along river sloughs.

Ash Throated Flycatcher (apparently)

Pain along R.R.

Shrike. Several.

Aug. 8, 1919. En route Burstone, California to Beatty, Nevada.

We were up at 2.30 A.M., dressed and in our sleeper at 2.45, when we went to bed again. It was 7.00 when we got up, and we were near Silver Lake on the Tonopah & Tidewater. Our train

consisted of about seven freight cars,
 a combination express, mail, baggage
 & coach car and the Pullman.
 The country was very desolate, the
 mountains very rugged & the flats
 very bare. Arapahoe Mts. to the
 west had the most extensive alluvial
 fans we have ever seen. At Arme,
 in backing a car on a Y siding our
 engine jumped the track and it
 took a good forty minutes to get it
 on again. The handling of freight
 at every regular stop held up our train
 so that we reached Shoshone, the place
 we were supposed to breakfast at
 9.30, at 1.00 P.M. This is in the lower
 course of the Amargosa River, where
 there is quite a little water, which comes
 presumably, from the springs in Ash
 Meadows. There is rich, sandy grass
 and much brush. At Death Valley
 Junction you are out on a bare
 plain, 200 feet above sea-level, where
 the narrow-gauge R.R. running
 over to Ryan brings out the crude
 oil to the refining plants located
 at the junction. From here on we
 ran for a number of miles on the
 Amargosa Desert, which gradually
 rises to the north, flanked on the

west in the Tumras and Supreme Mts, while to the N.E. is the Yuma range and due ahead of us the Bullfrog Hills, in which Beatty is situated. We reached Beatty at 5:30 P.M., so comfortably installed, got our mail, supper and found our trunk and tent awaiting us. The sunset was beautiful.

Aug. 9.
1919.

Film # 2
No. 10
Bullfrog
Hills, west
of Beatty.
10:30 AM.
Stop 16
Snap.

Alt. # 9
Crotaphytos.

Film # 3
No. 1.
Position of
Bare Mts
east of
Beatty,
thru
Amargosa
valley. Stop 16
3:30 P.M. Snap.

Beatty, Nye Co., Nevada. Elev. 3300 to 3400 feet.
After a splendid night's sleep, which was partially taken under a blanket, and a good breakfast, we struck out a short distance to the north of town. There is a low mesa on the side of the Amargosa River, here a mere brook, running to the Bullfrog Hills, then an area of adobe, to some extent bare, the stream bottom proper, which has a few cottonwoods, and, then the slope on the east to the Bare Mountains. The Bull Frog Hills and the Bare Mts, have no vegetation and are most fantastically eroded and weirdly colored. Above Beatty, i.e. up the valley ~~the~~ broadens out into Oasis Valley where there is considerable cultivation. Beatty itself is a town

with a past and probably little future, a mining town town which has seen the zenith of its days. Practically none of the mines hereabouts are working now, and the town which once boasted thousands now has hardly a hundred people in it. Most of the buildings are unoccupied, but fortunately the hotel is clean and fresh. The work of the morning was fair, particularly as it netted two ~~males~~ males of the previously unknown sex of *Arenaria caeruleipennis*. After lunch we worked on much the same region, getting more *Arenaria* and some other interesting things. During the day we were endeavoring, by wire, to get tires for the machine which is to take us on the Death Valley trip. We have a very good man & machine, but must have tires, and these we are getting from Los Angeles. Morgan found nothing singing at night.

Phalaropes - white & black (the back & cap) some grey on shoulders. Four swimming, feeding in river in company with Spotted Sandpiper. ^{at dusk} 1x ditto (not swimming) Night Hawk. Two at dusk. 1 Alder. Two with the other water birds.

Aug. 10, Beatty, Nevada.

1919.

Film # 3

no. 2

Amargosa

Rim at

Beatty,

looking N.

Stop 16.

11.00 AM.

Snaps.

Alc. no.

10.

Small lot

of fishes.

Amargosa River

Alc. no.

20.

Phrynosoma

on flat

1 Crotophaga

Film # 3

no 3.

view from

4300 feet

in Bare

Mtns. looking

west, showing

Beatty,

Bull frog

Hills and

fragrance

Mts.

3.45 PM.

16 stop. snap.

After a good breakfast we went out and worked in the river bottom and on adjacent mesa slopes north east of

Beatty, toward Oasis Valley. The results were but fair. From one spot in the Amargosa valley we scooped up in the net

about ten small fishes for Fowler. The picture was taken immediately

below that spot. After lunch we awaited with some interest, the arrival of the

train, for our tires for the Beatty Valley trip, but they failed to arrive, eliciting

much language, not of the parlor variety. This means two days before

they can get here, as there is no train up to-morrow (Monday). After this

disappointment we went on to the south east of the railroad track, worked

some time in the brush on a sand & silt flat, where I had the luck to

get a single very striking *Atriplex*. Then we struck into the Bare Mtns.,

and scrambled and climbed to the cliffs of the summit basalt, where

Murphy worked up a flue and was rewarded by finding the real summit

was still some distance off. The point we reached was somewhat on

Film #3 4600 feet in elevation, or over 1300
 no 4. feet above the town. The slopes were
 M.H. in "flue" very steep in places, loose slides
 near elevation, at about 55° angles on bare rocks,
 Bare Mtn. sometimes crumbly. The materials
 elev. 4300 were rhyolite (chiefly), basalt, tufa
 feet. and some silicified wood scattered over
 the slopes. After dinner Morgan had
 practically no luck with the flash,
 altho' he tried it in the locality in
 I got the unique Hecticid during
 the day.

Solitary Sandpiper	One along Amargosa
Spotted " "	Four " "
Nighthawk	One at coming.

Aug. 11, 1919. Beatty & Bull Frog Hills, Nevada.
 Alc. # 21 After breakfast we worked in the flats
 Uta & south of Beatty, along the railroad
 Cnemidophorus and toward the gorge. There is much
 Bull Frog saline incrustation there and
 Hills, near some salt grass, which yielded some
 Beatty, Nev. good, but not particularly exciting,
 stony slopes. material. After lunch, Jorg
 Alc. no. 22. Jorgensen, our hotel keeper was
 4 bats. going to Rhyolite, and he ran us
 Along Amargosa some several miles into the Bull
 River. Frog Hills, at an elevation of about
 Alt. M.
 4000 ft.

3600 feet, from which we worked back about half way, ^{when he picked up} on his return to Beatty. The hills are much like the lower slopes of Bare Mts., with greasewood and similar vegetation. In greasewood we took a good series of *Dusona corillae*, very large and beautifully colored. At dusk Morgan shot some bats along the Amargosa, a small *Myotis* with grayish body and blackish membrane. We kept four as specimens. We also received the cheering news that the tire order had been filled and they were being shipped to-night.

Green Heron. One along Amargosa River.
Night Hawk. " " "

Flock of apparently juncos - flying south at dusk in V formation, moderately high - birds large.

Aug. 12, 1919. Beatty, Nevada.

Alc. #23

Callisaurus.

After breakfast we worked down the bed of the Amargosa and the side flats to just above the gorge, surprisingly adding two species to our Beatty list. After lunch we adjourned to the station, to wait for our train with the tires. It was due at 1.10 P.M., but

it was 3.30 when it finally did arrive. The tires were safely aboard and we soon had them headed out to Mr. Elwood at the ranch, where his car was. This done we proceeded to get our supplies for the trip, food and otherwise. After dinner the re-arranging and repacking of our outfit was in order, and this was soon accomplished.

Night Hawk. One in evening, resting
in street & taking short flights after
insects. Bobbed its head up and
down when resting on ground.
Saw 100. Not full.

Aug. 13, 1919. Beatty, Nevada to ^{salt mill,} Port of Emigrant
Film #3 Wash, Panamint Mts., [^] Inyo Co., California.
no 5. Death Valley.

no 5. Death Valley.
Looking S. We had breakfast with Mr. & Mrs. Elwood
from Burns Canyon, 2250 feet at 6.00 AM and then we went out to
the ranch and he endeavored to locate an
ignition difficulty in the car. Finally we
got things running smoothly, loaded our
frap and provisions, oil, gasoline and equipment
into my Co. and finally at 11.00 AM. got started.
We had a converted Chalmers, with a
2500 feet

light truck body in place of the Bureau,
 and in one carrying fifteen gallons of
 gasoline in this, in addition to
 sixteen gallons in our tanks. It only
 required a short time to see that we
 were extremely fortunate in having such
 a good mechanic as well as driver as Mr.
 Elwood. We saw through the Bull Frog
 Hills, to the south of Rhyolite, in full
 view of its numerous large and deserted
 buildings, then our course was due west
 across the northwestern section of the
 Amargosa Desert, headed directly
 for Boundary Canyon between the Grape-
 vine and Funeral Mts. section of the
 Amargosa Range. We crossed the Amar-
 gosa, then pulled up to the summit of
 the Canyon at daylight spring, 4350 feet
 above sea level. We worked for nearly
 an hour and had a lunch. The surround-
 ings are typical of these mtns at the same
 elevation but there is much of a rank
 composite about the small spring and
 its short run-off. In passing I got a
 fine Hectacid and on both got an inter-
 esting Chasmodon. From daylight spring
 the slope to the west is steadily downward
 into Death valley and the road is not
 of the best by any means. We stopped

several times on the way down the
 west slope, at 2500 and 2250 feet, to
 work in a large wash with rocky channels
 where in a white, brittle, mill-leaved
 tree, which Mr. Oylwood says is the
 "bleath valley Holly" we found a white
 species of Asclepias, which Heward is
 convinced is new. Here Dytthiyle
 came into evidence and remained
 so until the bottom flats of bleath
 valley were reached, where no more
 were found. They fled like Schistocerca
 and were fairly wary. These stops of
 mine were near Hole in the Rock Spring.
 At 2250 feet we rounded a turn
 and behold spread out before us the
 central and southern expanse of bleath
 valley. It is a terrible picture, with
 its low, undulating hills in the bottom,
 its diabolical areas of sand dunes,
 while the salt flats have an ~~appearance~~
 appearance of ~~set~~ sickly whitish patches
 scattered over this great trench. The
 bordering mts. are equally forbidding,
 towering thousands of feet above
 the valley, brown, steep and imprisoning.
 In working down the long slopes, the heat
 increasing every minute, withering and
 dry, although it was between four and

Six P.M. we went down, through the
 Death Valley Buttes, low hills on the
 east side of the valley, while beyond it we
 entered the salt flat of the valley bottom
 at 190 feet below sea level. Here we
 worked in the salt grass and took Anemone
 and Eucryptophorus pallidus, both in
 numbers. The salt encrusted ground
 is hummocky, in some places nearly
 clear salt, a few mesquites scattered
 in it. Here we had a plague of
 large house-flies. We drove up the
 west side of the valley, over sandy
 blown areas, and stony slopes,
 in the ~~salt~~ fast gathering darkness,
 on a very bad road, to the junction
 with the road via Sheep Pipe Well, where
 we made camp at a few feet below
 sea level, at Salt Well, foot of Empi-
 rant Wash. Here we made camp
 about 9 P.M. We had a good dinner &
 worked to midnight, with a wonder-
 ful moon.

Gambel's Quail. Several coveys at
 Daylight Spring.

Aug. 14.
1919.

Salt Well, foot of Emigrant Wash, up
Emigrant Canyon Wash and return to
Salt Creek Mills.

Alt. no. 25.
Callisaurus.
Emigrant
Wash ab.
1500 feet.
E

We were off at 8.00 A.M. I had ~~not~~ slept
but little during the night and was
by no means fresh in the morning.
We started auspiciously around the
base of the long wash of Emigrant
where it is largely a gravel slope,
but we had not gone far before we
found the road ~~of~~ was badly washed,
constant rebuilding was necessary
and even detours up the washes of
came to grief. At the same time
our water supply was shrinking, as our
night camp previous had been a
dry camp and our stock was soon down
to a gallon or so, for men and machine.
Finally, at 2000 feet elevation, we struck
one piece of road which we rebuilt
and then failing to get where we wanted
we decided to jack up three ~~wheels~~
wheels and fill under them. We
started to jack one about noon, found
we could not get a good bed for the
jack and then rested a while,
sucking lemons, taking some condensed
milk mixed with water and eating
some canned pineapple. We were of two

mind's what to do - to keep on trying
 to get up the two thousand feet and
 sixteen miles to Emigrant Spring,
 if necessary abandoning the car and
 walking out, or return. The situation
 was serious, water had to be had for
 men & car. The final decision was
 to return to Salt Mill, drain at least
 some of the radiator water, fill it with
 salt water, sleep and make for Furnace
 Creek and fresh water in the morning.
 We went back down to Salt Mill and
 there to our horror it was empty - bone
 dry. The situation was getting dangerous,
 in fact was desperate. Dick, our driver,
 was pretty near all in, Mogan was in
 bad shape, as he was suffering more for the
 want of water than the rest of us, while
 I was anything but cheerful or comfortable,
 as my lips were badly swollen and my
 head not fully clear. Dick said Salt
 Creek Mills, and through the 11:00'clock
 temperature of Death Valley we drove the
 eight miles to Salt Creek Mills, praying
 that some water for the radiator was there.
 The water was there in one well. We drained
 the radiator of several gallons, filled with
 water from the well and prepared to go
 to bed with just a little. We soaked ourselves
 in the well, found it was but little brackish

and then reading the government report found it was usable. With Thanksgiving in our hearts we laid down with sufficiency of fair water to reach Furnace Creek Ranch in the morning.

Deeds (number in evening) Flying over Salt Creek country.

Aug. 15, 1919. Salt Creek Mills to Furnace Creek Ranch, Death Valley, Inyo Co., California.

Crotaphytus

Between Salt Creek Mills and Furnace Creek Ranch, Death Valley. Celest. ab. 250 feet below sea level.

Alt. # 27 But. shot Mos. Furnace Creek Ranch.

We arose about 5.30 AM, Morgan feeling much better to-day, while I felt very poorly, getting better after having relieved my stomach of some undigested lemon juice. After some breakfast we worked to lay out the best way of getting the car out of the sand where we spent the night, and started on the road of Furnace Creek Ranch. We had to pull out of deep sand, around a hillock and start up a long slope, climbing several hundred feet, largely on hard gravelly slope. By using blankets and brush we got out of the sand and we sailed up to the hill-top and then started for Furnace Creek at 7.30 AM. We had several bad spots, but nothing which meant work out of the machine, and it was about 9.30 when we rolled into the oasis of Furnace Creek.

Ranch, eighteen miles from Salt Creek Mills. We passed the old brax works several miles before reaching the Ranch, and traversed much rough, hilly ground, salt and brax interested, just before reaching the Ranch brax works. Below us in the valley were the salt and brax flats and we were very glad to keep away from them, as they are dangerous at this time of year. The ranch grounds are covered with cottonwoods, willows, palms - date & fan palm - fig, etc, while a whole ditch full of wonderful water runs by the house. In the corridor of the house is a water fan, which cools humans and their water supply for immediate consumption, which is kept in sheathed demijohns. The Superintendent Mr. Klentz, accorded us a cordial reception and we made ourselves at home in the ranch grounds, in the shade of the trees. He told us much about the brax works, the valley, its hazards, water necessities and the men - corpses he has had to handle. His lonely life, the only white man on the ranch most of the time, is showing

after ten years of the work, and he leaves in about a month. It is a garden of Eden in a hellish land, the country around the Death Valley at its worst. To the west rise the really very high Panamint. back of us the Amargosa Range - the Funeral Mt. section. Our host is a charming man and the more you see of him you wonder how he has managed to keep sane in this place. Morgan shot a number of ducks down by the alfalfa and we had a fuge in the evening. The sunset was wonderful. Max. shade reached 120°F .

1 Kidder. Forty-odd in the barn yard.
 Night hawk. One at desk.
 Pintail. Flocks in ranch in water spots.
 Vireo sp. In palms.

Aug. 16, Funeral Creek Ranch, Death Valley to
 19, 9. Hole-in-the-Rock Spring, Boundary
 Alc. no Canyon, Amargosa Range, California.
 28 After a good night's sleep in the
 Uta - breeze of the water fan, on the ranch
 along, porch, we arose at 5.00 AM. After a
 spring good breakfast, supervised by Mr.
 flow - Funeral Death, our host at the ranch, we
 Funeral took the machine and ran down
 Creek to the edge of the salt flat, unbed
 Ranch.

- Film #3 There for some time then up along the
 no. 6. ditch supplying the ranch with irrig.
 Panamint ation water. We had some success,
 Range from Furnace with some interesting captures. We
 Creek discovered we had a broken rear spring,
 Ranch which blew off, welded and
 corral. replaced. After lunch we packed our
 outfit, as the heat was not as intense
 no. 7 as usual and the sky was somewhat
 alfalfa overcast, and started for Boundary
 field of Canyon. The run from Furnace Creek
 Furnace Ranch. to Hole in the Rock Spring,
 looking Boundary Canyon took about four
 N.W. hours, allowing the engine to cool a
 no. 8 number of times, making camp there
 Furnace at 7.15 P.M. We slept out and had
 Creek a good cool night.
 Ranch, looking
 toward
 Furnace
 Range.
-
- no. 9.
 Salt flat
 2 m. south
 of Furnace
 Creek
 Ranch
 looking
 toward
 Panamint
 Range.

Aug. 17, 1919. Hole in the Rock Spring, Boundary
 Alc. no. 29 Canyon, Amargosa Range to camp
 Hollister north of Charleston Peak, Nevada.
 Amargosa Desert. We awakened about six A.M., had
 a good breakfast, did some collecting
 in the vicinity, then at 8.15 we started
 back to Beatty, arriving at Haylight
 Spring at 10.30 and Beatty 11.00
 A.M. After getting a lunch, adding
 provisions and getting our mail
 we started off on our Charleston
 Peak trip. We travelled by way
 of Carrara, Fairbanks Ranch, the
 road south of Amargosa and Point
 of Rocks, camping at a point on the
 Las Vegas road north of Charleston
 Peak, near the old station of Charleston,
 and at an elevation of 3500 feet. The
 road was fair, but with many loose
 stretches, but little really deep sand.
 In the canyon at Point of Rocks you
 pull up through about two miles
 of wash, fortunately small stones.
 Run (White Necked) Near Beatty?
 Hawk (Prob. Swainson) One " "

Fairbanks Ranch
 & Amargosa
 Elev. 2550 feet.
 Film # 3
 no. 10.
 Looking
 W. in
 Death
 Valley
 from hole
 in the
 Rock
 Camp,
 Boundary
 Canyon

Aug. 18, 1919. North of Charleston Peak to camp at
 Alamo St. 8000 feet in Lee Canyon, Spring Mts.
 Lee Canyon, Nevada.
 Spring Mts. We left our camp at 7.30 AM, after a
 New. elev. sunrise which for color was under-
 4000 feet. full. We travelled via Indian Springs
 Tree yucca a settlement with beautiful trees
 zone. and a beautiful water supply. Some-
 Alamo St. ten miles east of Indian Springs
 2 bats. we turned south west, leaving the
 Lee Canyon, main Beatty - Las Vegas road at
 Spring Mts. 3000 feet elevation, and started up
 New. elev. 8000 feet. the long twenty mile grade to
 Caught in cabin the heavy timber in Lee Canyon.
 It is a steady up-hill, first across
 the main wash of the valley, then up
 through greasewood to tree yucca
 (Joshua tree), which begin about
 3500 and last to about 6500 feet.
 The first piñon & juniper appear
 about 6000 feet, in with the Joshua
 trees, while the pines come in on
 the canyon bottom at about 7000 feet.
 At 8000 feet a few balsam firs are
 evident. We finally got settled in
 the old saw-mill buildings at 8000 feet
 and after considerable exploring found
 the limited water supply. While
 putting up stuff in the evening Antelope

and *Myotis* came in and were captured.

Clark's crow.
~~Mex. finch~~ type. One at 7000 feet.
 Appar. Pinyon jays. Several at 6000 feet
 in pines, juniper & Joshua trees.
 Gambel's quail. One covey at 3000 feet
 near morning camp.
 Mourning dove. Several at 8000 feet.

Aug. 19, 1919. Lee Canyon, 8000 feet, Spring Mountains,
 Film # 4 Nevada.
 no. 1.
 Views of high peaks to east of camp in Lee Canyon. After a wonderful breakfast we first
 Spring Mts. proceeded to open up and clean out
 the water supply, quite a job as we
 had to pack twenty gallons down to
 the shack where we were breakfasting.
 The remainder of the morning we worked
 in the canyon above the lumber camp,
 getting a good series of *Circus* and
 other things. After lunch Morgan
 worked up to 10500 feet and I worked
 about the camp and for some
 distance down the canyon.

Red-shafted Flicker. One in canyon.

Apparently Crossbills - 2 seen by
Morgan at 10500 feet.

Aug. 20, 1919. Lee Canyon - 8000 to 7200 feet. Spring Mts.,
Tilden #4, Nevada.

- no. 2. Looking up Lee Canyon from 8000 feet. 9.00 AM. 16 stop. snap.
- After filling up everything available with water we moved down the canyon about 9.30 AM, making a camp at 7200 feet in the piñon-juniper zone, under two large piñons. The vegetation of arborescent character was almost entirely composed of these two trees - the low one was sage, a flowering sage, ^{two} yellow flowered caryophyllites, one larger than the other, and several other plants. It appeared excellent for collecting, but material came slowly, although some things were very desirable. The view down the canyon at 7200 feet was rather out over the benches, was looking northward splendid, with the Sheep Range and Las Vegas Valley.
- no. 3. Looking at character of Spring Range from camp in piñon-juniper at 7200 feet for collecting, but material came slowly, although some things were very desirable. The view down the canyon at 7200 feet was rather out over the benches, was looking northward splendid, with the Sheep Range and Las Vegas Valley.
- no. 4. Camp - environment very desirable. The view down the canyon at 7200 feet was rather out over the benches, was looking northward splendid, with the Sheep Range and Las Vegas Valley.

Clark's Crow. Numerous at piñon camp, feeding on piñon nuts.

Pinon Jay. Apparently none at piñon camp - a very few blue, unexcited ones.

House sparrow. Apparently none at piñon camp.

Red-tailed Flicker. Seen at upper camp.

Aug. 21, Lee Canyon, 2000 to 6000 feet, Spring Mts.,
1919. Nevada.

Alt. no. 32
Sceloporus
Dra. Yucca
belt, Lee
Canyon, Spring
Mts., NW,
6000 feet.

We had a cool night, with a high, steady wind, which sought out the open chinks in the folds of your blankets. We had a wind-break of piñon branches and the tree yucca machine to help, but it was a cold bunch which arose shortly before 6. AM to build a fire and get warm. After breakfast we started down the grade and made a new camp several miles down, at 6000 feet elevation. at the upper edge of the tree yucca (Joshua tree) belt and where a few piñon and juniper still remained. We worked all day hard, largely for Aglaotherax and several smaller dictyids, which were greatly desired. Our camp was a comfortable one, under a piñon and several junipers, where Dick made soft beds for us with mats of soft brush.

Bluebird. Several at 6000 feet - not
Aztec Bluebird.

Pinon Jay. Numbers at 7200.

Clark's Crow. " down to about
6500 feet.

Aug. 22, 1919. Lee Canyon, Spring Mts., Nevada 6000 to 4000 feet.

Film # 4 no. 5. We spent a wonderfully comfortable night, thanks to the brush matted-soed beds fixed up by Dick. It was not very cool at upper end and I awakened only once or twice.

Yucca Camp, After a good breakfast we started up looking s. to and moved down the canyon at about high Spring 4000 feet elevation, making a camp at about the mouth of the canyon, and one thousand feet up the detrital

same. common. slopes of the mountains from the Las Vegas Valley bottom. It was quite warm and we worked hard, getting quite a few Caprotites, as well as many other interesting things, altho' everything came in slowly. It was extremely warm at noon and we put up material and waited for a little cooling-off. The sky, however, became overcast and this permitted us to work with more comfort. We spread our beds under the yuccas and greasewood.

Shrikes. Sec. at 4000 foot camp.

Aug. 23, 1919. / Lee Canyon, Spring Mts., 4000 feet elevation,
 to Ash Meadows, Nye Co., Nevada.
 Alt. no 33. The night was comfortable and we
 got up about 6 A.M. The ~~car~~ ^{magneto} to
 Ash Meadows needed a little adjustment and it
 (Fairbanks) was shortly after eight when we
 (Ranch) moved down the grade. We worked
 Nye Co., for a few minutes at 3500 feet
 Nev. elevation, and again at the "bad
 lands" in the Lake basin (playa) beds
 at 3000 feet in the Las Vegas Valley.
 The day was very warm and we
 moved as rapidly as possible. We to Indian
 Springs, where we replenished our
 water, rested in the shade and were
 treated by the lady at the ranch to
 sweet milk and butter milk. Morning
 we in lunch in the ~~be~~ wash near
 Point of Rocks, and then pushed on
 about twenty miles to Ash Meadows.
 We had a head hot wind, which
 made riding anything but comfort-
 able. We worked at Ash Meadows
 for one hour and then pulled
 out a mile or so on the road to
 Beatty, where we camped and had
 a splendid dinner.

Lark Bunting. A number in Indian
 Spgs Valley. In mottled
 plumage.

Shrike. Several on Spring Mt.
Slope.

Gambels Quail. Several coveys about
Point of Rocks.

Mourning Dove. Several flocks at
Ash Meadows.

Pintail Duck. One dead & one
flock at Ash Meadows.

Aug. 24, 1919. Ash Meadows Camp to Beatty, Nevada.

U perfectly wonderful sunrise awa-
kened us at about five A.M. The whole
east was one fiery glow and this
brightened and spread as the sun
rose. After breakfast Morgan &
I walked ~~down~~ back to Ash Meadows
while Dick overhauled the rear
wheels of the car, fixing several
bolts which had loosened. We
worked about the meadow until
10.15, when we left direct for
Beatty, making but one stop,
that to put water in the radiator,
and arriving about 1.15 P.M.
Dick brought his wife in from the
ranch and she gave us a perfectly
wonderful lunch, which we in-
dulged in in all the glory of

Film # 4
no. 8.
Vicinity of
Ash Meadows.
No. shining
holes.

No. 9.
Dick Ayland
& J.R.
at Ash
Meadows
Camp.

No. 10.
Dick Ayland
& M.W.
in middle
of canyon
here.

Fine day, showers, having removed
 only the superficial dirt. After lunch
 a good shave, a bath and clean
 clothes made us feel like human
 beings again, and we were then
 able to do justice to the wonder-
 ful chicken and water-melon
 dinner Mrs. Aylward set before
 us. We turned in for a good
 sleep in a comfortable bed at
 Mr. J. Hammond's hotel.

Pintail. One flock at Ash Meadows.
 Mourning Dove. Number " " "
 Prairie One " " "

Aug. 25, 1919. Beatty, Nevada to en route to Los Angeles.
 After the luxury of a night in a good Cal.
 bed we arose about 7.15, had breakfast,
 packed our trunk & other baggage, settled
 our bills, bid good-bye to our very good
 friends George Greenwood, the hotel
 keeper & deputy sheriff, and Dick Ayl-
 ward, our good companion and driver. We
 had lower berths to Los Angeles, but
 how far we are yet remains to be
 seen, as there is a railroad strike
 in Los Angeles and we are not sure

of our train connection at Ludlow,
 on the Santa Fe. We are trusting to
 get in some respectable time in the
 morning. The trip down from Beatty
 took us over ground to which we have
 begun to feel a certain amount of attach-
 ment and association, Carrara, Heath
 Valley Junction, Shoshone (long to be
 remembered for its cats), Decopa
 and Silver Lake. The red-colored mts.
 had the same appeal they made when
 we came up, and the wonderfully
 eroded dirt hills were just as weird.

Kildan. One heard at Decopa and
 a one legged (probably) one was
 hopping about the R.R. tank one-
 flew at H.H. Junction. This bird
 treated me his one leg as a
 normal bird.

Rudlow, Cal. to Los Angeles, Cal.

Aug. 26, 1919. I awakened at about four AM. from a long sleep in the peaceful atmosphere of Rudlow, where our ~~own~~ sleeper had been stranded since 10.20 PM., when they put us on the belated Phoenix-Los Angeles train. How far we could go, in the face of the spreading railway tie-up we could not learn or guess, but when we reached Barstow we found that was about as far as trains would take us. The engine crews had deserted three engines there, and nothing was moving. After breakfast we prospected and finally we got a Ford which would take us to San Bernardino at a figure not so much highway robbery as others were asking. We started at 9.00 AM., for and a drive and at 1.30 we were in San Bernardino, one eighty mile away. The ride through the Cajon Pass was most interesting and the San Bernardino Valley spread below us like a map. At San Bernardino we got some lunch from the railroad officials, knew no more than we did, in fact less about the Barstow situation and finally we were befriended by a kind hearted Italian-American.

Antonio Socio by name who was going to Los Angeles in his six cylinder Buick. He took us to Los Angeles in just a little over two hours, over sixty miles, over wonderful roads and for long distances through splendid orchards of oranges, lemons and olives and vineyards of grapes, while in the background were the towering San Gabriels. Not a wheel was stirring on any of the railroads, but Los Angeles was full of life and people. We were quickly installed in the "Alexandria", got our mail, got clean and had a good dinner.

Aug. 27. 1919. Los Angeles, California.

In the morning I was engaged with the dentist, barber, shopping and giving mail some attention. In the afternoon I hunted up the Roches, had dinner with them and we ran to Long Beach and back.

Aug. 28, 1919. Los Angeles to Forest Home, San Bern-
 ardino Mts., California.
 Alc. no. 34 ^{Rattlesnake} We left Los Angeles at 9.15 A.M.,
 headed for Forest Home in Mill
 Alc. no. 35 & 36 Creek Canyon of the San Bernardino
 Mts., at an elevation of 5200 feet.
 Both: Mill We travelled via the Valley Boulevard
 Creek Canyon about 5300 through Puente and Walnut, except
 to 5400 feet. that we headed straight for Colton
 and Redlands. We got a splendid
 lunch at a Cafeteria at Redlands,
 leaving there about 12.30 P.M. From
 Redlands we ran via Montrose,
 then up into the mountains, gradually
 climbing and climbing. We passed
 through the chaparral belt and entered
 the lower part of the pine belt just before
 we reached the Forest Home grounds. We
 were soon installed in a comfortable
 tent house and then dug out for
 three hours up the canyon. There we
 met a Mr. Yeager, who has a considerable
 interest in natural history, and who
 is acquainted with Fall & Tanager.
 Our car is a Hudson six and our
 chauffeur - Eddie - a brick.

James of regano type. Common at
 Forest Home.

Long crested Jay. Several at Forest
 Home.

Aug. 29, 1919. San Geronimo Peak, San Bernardino
Film #5. Peak, Mts., Cal.

- no. 1. We had breakfast at 6.30 AM. and the
Vivian Creek two of us were ready to leave for
Valley, San "Grayback," as San Geronimo Peak is
Bernardino called, very shortly after ^{sun} eight, but a
Mts. Elev. delay in getting our horses ready held
ab. 7200 ft. us until eight AM. I had a large buck-
skin mare, who was splendidly sur-
fitted and very strong, but a little
no. 2. lazy, while Morgan had a brown horse,
Vicio of San which was more willing than my
Geronimo horse, but was not as strong, felt the
Peak from altitude more and was poorly shod,
S. from point casting me and a half throes early
on ridge at in the day. My saddle was poor and
ab. 10300 feet I had to fix the girth twice during
the day. Our route led up the
no. 3. Mill Creek Valley for six miles,
Vicio from steadily but gradually climbing,
same pt. then across the creek and for the
looking not next two miles zig-zag up the face
down Mill of one of the very steepest slopes I have
Creek Valley ever climbed or crossed. The trail
no. 4. in many places is very narrow,
Common some hardly more than eight inches,
at same place and in soft, crumbly material which
slides easily under foot. This slope was
no. 5. bad on horse and we were glad when
no 6
no 7
Vicio from
spur of
San Geronimo
Peak at
about 11200
feet.

it dropped slightly into the valley of Virian
 Creek, a beautiful work with wonder-
 ful sugar pine and immense cedars.
 We worked here a short time, then
 hit the slope up the valley, winding
 through ~~and~~ timber, now heavy
 chaparral of *Cercocarpus*, the trail
 often hardly visible. At the upper
 part of Virian Creek we climbed
 another hard slope, up and up and
 up, crossing over a small divide
 and dropping into the ^{valley} valley of High
 Creek, which was 9000 feet high. We
 we lunched, fed & watered the horses,
 and at one o'clock pushed on. The
 climb from here was steady and
 steep, into the Hudsonian *Pinus*
mariana, a sturdy, thick-trunked
 tree. Soon we could see turning right
 on us the white summit of Grayback,
 and as we climbed and then rested
 the ~~hills~~ the timber became thinner
 and more scraggly, and finally
 we were out, above timber, with nothing
 but prostrate mats of timber pine
 betw. us and the summit. It was
 about 600 feet to the summit, over
 large stones and gravel slides, while
 the horses were feeling the altitude

greatly. Finally we tied them to several
limber pines and went on ourselves.
The top is about 11400 feet. The view is
wonderful. To the south the San Jacinto
range seems but a step away, while
beyond are the Cuyamaca range and
in the dim distance the San Pedro Martin
range in Lower California. To the
east we look on the boundless expanse
of the Colorado desert, with the railroad
extending out into it as a thread.

To the north stretches the main part
of the San Bernardino range, with
Santa Ana valley under us and more
removed is the expanse of Big Bear
Lake, while in the distance stretches
the Mohave. To the west Cucamonga
and Baldy peaks in the San Gabriel
range tower up nearly to our level.
It was quite cool, and as it was 3.20
P.M. we started down. We walked
much of the worst slopes, both as a
change and to ease up the work of the
horses. The late afternoon light effects
were beautiful in the valley of Vivian
Creek and all the way into Forest
Home. We were quite tired when we
arrived at 7.15 P.M. - Mr. Yeager came
down and we had about an hour's chat
in the evening.

Red-shafted Flicker. Numerous below
7000 feet.

Snowbird (regiment type) All the way
up to about 11000 ft.

Song Sparrows. One on summit bald.
Sparrow Hawk. One at ab. 9500 ft.
Robin. At 9000 ft.

Aug. 30, 1919. Forest Home to Big Bear Dam, San
Bernardino Mountains, Cal.
Alc. no. 37
Harrogo Ranch, Mich.
Cruck Valley
San Bern. Mt. Cal.
We left Forest Home at 9.15 AM. and
for the Big Bear Lake country. We stopped
and worked very profitably for about
an hour, a distance of about four
miles down the road from Forest Home.
Here we got Meura pennicula. We
went on down to the fork where the
Big Bear road branches off, then
up to the control on that road a short
distance above the fork. We had two
hours & more until we could leave
the control, so we worked quite a
lot, then ate lunch. Here I had a
second dental accident for the trip,
much to my disgust. We left the
control, the first car, at 2.00. The climb
up, across and down into the Santa
Ana valley is one to be remember.
The grade is fine and some of the
turns and sheer falls a few feet

from your wheel hair-raising. We reached
 the Santa Ana control, down on the
 Santa Ana River, at 3.00, five minutes
 ahead of time and ~~at~~ were fined
 accordingly. We left there, when per-
 mitted to do so, at 3.30, for a stretch
 of far more steady grinding climb,
 which goes up well over 6000 feet,
 but in which, for some reason, they have
 placed no controls. As many as nine
 loops below you can be seen at one
 time, while the climb is steady. Some
 cars wheeze & have a hard time getting
 there. Our Hudson did very well, as
 we boiled her but once. The run
 down hill to Bear Lake is rapid, though
 rather open pine forest country, with
 little grass and in appearance
 not particularly attractive to us. We
 stopped at Big Bear Tavern and
 got several rooms in one of their lodges,
 comfortable clean and new. Shortly
 after dark a steady drizzle came
 down and continued well into
 the night.

Audubon's Warbler. Common about
 Big Bear Dam.
 Snowbirds (regulares type) seen several places
 on the way up.

Aug. 31, 1919. Big Bear Lake Dam to Victorville,
 California.
 The morning was heavily overcast, with
 a spit of rain. We left the Dam at about
 8.50 AM, travelling via Baldwin Lake,
 Cactus Flat, Johnson's Ranch to Cushen-
 bury Ranch. The ride down the two
 grades on the northern side of the
 San Bernardino is a most interesting
 one. But a short distance below the
 top of the upper grade is Cactus Flat,
 an approximately level area with
 numerous Joshua trees. The slopes about
 juniper + pine. We worked there and
 at Cushenbury Ranch which is
 practically at the bottom of the grade,
 while a heavy storm gathered in the
 mountains above us. We left Cushen-
 bury Ranch, which is just below the
 upper edge of the fir-covered, just in
 time to miss all but a sprinkle
 of the storm. We travelled by way of
 Box S Spring, Box S Ranch, Headman's
 Point to Victorville, while behind us
 the country was being drenched.

Alt. no.
 number

Frog.

Big Bear
 Lake Dam.

Alt. no.

38-39

Frog.

Cushenbury

Ranch,

no slope

San Bernardino

into.

Alt. no.

40

Sulphur

ditto.

At Victorville we got splendid accommodations
and a good dinner.

Cost. Hundreds in Baldwin Lake.
Red-billed grebe (approx.) A number in ditto.
App. Cared grebe One in ditto.
A number of ducks (spo?) Baldwin Lake.
Audubon's Warbler. Numerous - Big Bear
Lake - Baldwin Lake.

Bluebird. Numerous - ditto.
Black Phoebe. One at Cuckentury Ranch.
Shrike. One at Box S Spring.

Sept. 1, 1919. Victorville to San Bernardino, Cal.

Alc. no. 50. We had breakfast about 8:00 AM. and were
out in the field working by 8:40 AM.
Sceloporus. Took the machine and ran up along
Victorville. The machine used ran up along
Cal. running the R.R. tracks, where we could examine
in the yucca. Much vine vegetation, vine and
Film #4 flat, wet grass lands and dry tracks
no 8. in vine flat. Found some where
large tree yucca. there are probably, after which we
Desperio. went out in the hills a mile or so
Cal. south of the town, where nearly all
no. 9. vines were yielded little. After
looking down into much we started toward San Ber-
Cajon Pass nardino, working some places about
from near Desperio, on the north side of the
top of summit of Cajon Pass and in the
Cajon grade.

canon of Cajon Creek on the south slope of the Pass. At the latter point the strong wind up the Pass, really interfering with collection. We reached San Bernardino about 6.15 PM and got quarters at the Planet Hotel, eating at the Harney lunch room at the railroad station.

Read names. Fossils in Cajon Pass. Thrive. One near Harney.

Sept. 2, 1919. San Bernardino, Cajon Canyon, Corona
Alc. no. 51 to Pomona, California.

Rattlesnake Ultra breakfasting at the Harney House before, San we left San Bernardino about 8.15 AM, Bernardino joining up the Cajon grade about Co., Cal. Further miles to near Decor, where we Alc. no. 52 climbed on the dusty hills from an Verdumont, near, getting some material, while San Bernardino. We then killed a rattlesnake about four feet, three inches in length. We then worked down the canyon at several other places, that in the large wash at Verdumont being the only really productive spot examined. We ran into San Bernardino for lunch, then out to the Santa Ana wash.

between Elton and Redlands. This proved almost of no value, and as we were getting pretty tired of unproductive, cultivated valley Southern California, we struck off south-west toward the Riverside and Corona region. We reached Riverside and passed on toward Corona, which we reached without seeing one likely spot for work. From Corona we turned southward toward Chino and Pomona, finding one yellow grass hill slope a few miles outside of Corona which occupied us for a few minutes. We reached Pomona at 5.02 P.M. and were soon quartered at the Hotel Aris, clean, neat and with a good table.

Sept. 3, 1919. Pomona to Los Angeles, Cal.

We left Pomona at 8.15 A.M. working once in the Santa Puente Hills and once in the San Gabriel Wash, with little result in either case. We reached Los Angeles at 10.45 A.M. Morgan left at 10.15 P.M. for Lone Pine, while I had to stay in for the dentist.

Sept. 4,
1919.

Los Angeles.
Geologist. Letters. Shipping package.
Left at 10.15 PM in sleeper to Mohave
bound to Lone Pine.

Sept 5,
1919.

Lone Pine, California to Lone Pine Canyon.
elev. 8300 feet, Mt Whitney section of
Sierra Nevada.

A kindly porter awakened me in time
to get off my sleeper at Mohave at 2.45
AM. Where I had to wait until 5.00
for the branch road (Owens) train to
start, which was to take me to Lone
Pine. I utilized some of the time in
getting an early breakfast, then after a
short wait they considerably allowed us
to get in the coaches of our train and curl
up - this about 4.15. It was just showing
the first ray of daylight when we left
Mohave and we had a beautiful sun-
rise to greet us between there and Seale,
the junction where the branch road
runs on to Inman, the great potash
locality. Large lava flows apparently
cut off the south end of Owens valley
from the Mohave desert, and you wind
over and through them for some distance.
Owens is already at the shores of Owens
Lake before a wind of the railroad

gives you a good view of the Sierran
 front to the west of the valley, dominated
 by Mt. Whitney, and the lower part
 more evident Lone Pine Peak. We
 reached Lone Pine Sta. on time, at
 9.20 AM., and were soon on to the
 town, about a mile and a half away.
 Mufson was there awaiting me and
 he had practically completed his
 arrangements for the Mt. Whitney trip.
 After a second breakfast, ~~and~~ a rest
 and an attempt at a sleep, and then
 a lunch, we made a start at 1.00
 P.M. Our outfit was in charge of a
 Mr. Olivas, a ^{Mexican} ~~Chilean~~ who has lived
 here since the 80's and who is thoroughly
 acquainted with the country. We had
 two saddle horses, a saddle mule &
 a pack mule. I rode the saddle mule,
 the others the horses. The road led
 due west through the igneous Alabama
 Hills, ~~then~~ generally winding along
 the side of the tumbling Lone Pine
 Creek, which seems ~~very~~ peculiar,
 a limpid mountain stream bordered
 by green trees, with sage but a
 few yards away. West of the Alabama
 Hills we steadily ascended the long
 but very gradual, outwash slopes of

the Sierras, these distinct but nothing like the detrital slopes or alluvial fans of the desert mountains in kind so well. When we hit the mountains themselves it was right at it at once, climbing a steep trail, winding, switch-backing and often walking to take some of the work off of the animals. We ^{went} ~~would~~ up through the piñon and juniper belt, the pine belt and into the firs, following up the tumbling Pine Pine Creek. At 8300 feet we camped for the night among fir and pine, at the foot of a beautiful cascade. Our supper was good and the large fir we had most welcome. Quilts & blankets were in demand.

Sept. 6, 1919. Pine Pine Canyon, Sierra Nevada, California,
 Film # 5 elev. 8300 to 10800 feet.
 no. 10. We were in the snow at about 8.10 AM, starting
 Meadows back a steep up-grade, switch-back
 down at and twisting, out of the Canadian pine
 10800 feet. Film # 6 and fir and into the Hudsonian twisted
 no. 1. pine forest. At 10000 we passed a beautiful
 vicinity mountain lake, known as Long Rock
 of Lake Pine Lake, down to which at the
 Film # 6
 no. 2. north-facing slope carries the above
 vicinity same timber line conditions down to that
 of same elevation. Film # 6
 no. 3. From that point we continued
 same.

up slopes a good thousand feet more and then dropped down into the Lone Pine Meadows, at 10800 feet, an extensive meadowy area with a small lake. Here we made camp, worked in that vicinity during the morning and after lunch went down toward Lone Pine Lake. Mr. Olivas went ahead with the trout line and started fishing, while we worked on the above timber-line slopes, getting splendid stuff. Continuing to the lake Mr. Olivas had one trout and Morgan got two more, these tasting fine at dinner. We returned to our camp about five, pitched tent and prepared for a cold night, in which we were not disappointed.

Clark's Crow. One at Lone Pine Lake.
Rusby Grouse. One flying over at about 9000 feet.

Sept. 7, 1919. Lone Pine Canyon, 10800 feet, to west slope of Mt Whitney, Sierra Nevada, and return.
Film # 6
no. 4, 5, 6,
7, 8, 9 & 10.
Head of Lone Pine Canyon, Whitney Pass & west slope toward Whitney.

The first glow of day showed on the peaks over us as a pinkish suffusion, very beautiful to see, but the cold was so pronounced, that we were glad

to slide back into our tents and blankets. The wind had died down during the night, but the cold was considerable. We left the camp, on our horses at 7.30, and they took us up past a lake some hundred feet above us, then on up and up to a higher, deep blue lake, far above timber line at an elevation of 11780 feet. At but a feet above this lake we left our horses in a meadow and started on foot for Whitney Pass. This is a steady up climb to 13335 feet, very steep, with bucking and dodging large boulders of granite. Morgan went ahead, as he planned to reach the summit of Mt. Whitney (14501 feet) and return by evening, while Mr. Ullias and myself were going as far as our wind and time would conveniently take us. We made the slope to the pass in about an hour and a half, found the trail completely gone for a stretch at the summit and walked around it to get to the west side. There we walked along the Mt Whitney trail northward for about two miles, looking down up on Twin Lakes and the upper reaches of Whitney Creek, which flows into the Kern River. At 12.30 P.M. we started

back, when about two miles north of the Pass and almost due west of Mt. Muir. The wind had been high, but it had gotten much colder and we thought it best to get down. We reached the meadows from which we started at 2.20 P.M. We waited until we could see Morgan coming down the trail, then we started back to camp leading our horses. We reached there about 5.15. Morgan getting in about 20 minutes later. We could see from the Pass Telescope Peak and many ranges off to the east of the Panamint. Morgan had reached the summit of Mt. Whitney and also collected a new *Helictid*. A heavy gale was blowing toward evening and we were thankful for our tent.

Chippew. One at 11500 feet in Lone Pine
Leucostictis. Several at 11700 feet to
 summit of Whitney (Morgan)
Chickadees. At 11500 feet.

Sept. 8, 1919. Humber Camp, 10800 feet, Lone Pine
Film no 7 Canyon, Mt. Whitney trail to Lone Pine,
no. 1. Cal.

Falls at 8300 feet
Camp.
no. 2.
Looking up
Lone Pine
Canyon
from about
5000 feet.
during Mt.
Whitney.

We had a bad night, not so cold but we
nearly blew away. The tent swayed &
buckled but held down. We arose
shortly after day light and it was very
soon after eight when we started
down the trail. We reached at 8300 feet
and again about 7500 feet, getting
Cucullaria thalassima. We led our
horses a good part of the way in account
of the steepness of the trail. We lunched
just outside of the mountains and
reached Lone Pine at 4.00 P.M. We
were safely installed in the hotel and
in the evening repacked our baggage.

Sept. 9, 1919. Lone Pine to Bishop, California.
After a good breakfast we left Lone Pine
at 9.30 A.M., laying over at Currys until
about 10.00 A.M., when the narrow-gauge left
north bound. The narrow-gauge stalls
along at about twenty-five miles an hour,
a "mixed" train, which shunts cars and
loads freight at all the stations. From
Lone Pine north nearly to Reno, which
is the station at which we leave the
train to go about four miles to the west

to Bishop, is very very dusty and the ride an extremely dirty one. The southern portion shows more incrustation of salts - sodas than to the north, but the typical sage dust around Kearsarge & Junich is reminiscent of northern Nevada. About ~~the~~ Lane & Bishop the valley is more intensively cultivated water more abundant & crops apparently better than in the center about Rose Pine, Independence and Big Pine, but they all are well watered and productive regions with much alfalfa and grateful shade. Bishop is quite a town and its leading hotel, the Italia, is built around a patio, an old building but modernized and comfortable. After lunch we worked off to the south several miles, being given a lift by several ladies in a machine. Uncultivated land was very scarce and a high wind made collecting very difficult. We had some success, but not a great deal. In the evening we arranged for a day's trip to move into the higher parts of the White Mts., to the east of the valley.

Birds: Blackbird } in flocks near Bishop
 Brewer " } in wet fields.
 Night Hawk. Two near Bishop.

A small frick, apparently eared frick. In little pool at Lone Pine.

- Sept. 10, 1919. Trip to top of Sierran Canyon trail, White
Film # 7 Mts., Inyo Co., California.
- no. 3. We were up at 6.30, had breakfast at
Sierra Nevada from 8300 feet and left at 7.30 in a machine,
in White Mts. which took us across the valley, past
taking across Owens Valley. Lanes, up the slopes of the White Mts.,
no. 4. and up Sierran Canyon to 6000 feet
Environment at 8300 feet elevation. Here saddle horses were
in White Mts. awaiting us. The lower portion of Sierran
no. 5. Canyon has very high walls, typical
White Mts. volcanic hills, low down the range
Peak from 10700 feet being volcanic, higher shales and lime-
in White Mts. stones. The trail was an excellent one-
no. 6. in fact a fair wagon road, washed in
Sierra Nevada from 10000 feet a few places and fairly steep in a few
in White Mts. others. At 7700 feet we entered the pinyon
(fox-tail pine) belt - there is almost no juniper and
no. 7. this continued to over 9500 feet. There
no. 8. was no sugar or bull pine, the Canadian
Panorama zone apparently being represented
of Sierra by mountain mahogany - a small
from 8300 feet. area of low aspen. The fox-tail pine
no. 9. was in patches as low as 9000 feet,
Panorama of Sierras while sage covered most of the higher
from 8300 feet. untimbered areas, going completely
no. 10. across the summit of the pass at
Sierran Canyon looking down at 7000 feet.

10400 feet, The highest point we reached was a pinnacle on 10700 feet, where we ate our lunch in the pines. These were in scattered patches, never heavy or dense. From this point we had splendid views of White Mtn. Peak (on 14000 feet) to the north, also to the northeast the lower but prominent Cubana & Blanco Peaks, the latter quite white, the former apparently volcanic & dark. We worked at 8100 and 9500 feet on the way up and the way down. We left the machine at 8.50, reached the top at 1.00 PM, left the top at 2.30 and reached the machine at 5.15. Our horses were good, although not fast, and altogether it was a very pleasant trip. The views of the Sierras were wonderful.

Green-tailed Chermuk.	One at 6800 feet.
Pipilo mac.	One at same.
Chickadees.	At 9500 feet.
Clark's Crow	8300 feet to summit of pass
Marsh Hawk.	Near Bishop, on wet meadows.

Sept 11, Bishop, Rock Creek Canyon to Hawthorne,
1919. Mineral Co., Nevada.

We were up at 6.00 AM and shortly after
sun left in a machine which had to take
us up into big pines on the Sierra side of
the valley, Northwest of Bishop. We soon
struck the volcanic table land which
occupies a good portion of the northern part
of Owens Valley, then climbed it, dropped
down it into one of the deeply eroded
canyons in the land - that of Rock
Creek - which we followed up for some
miles, alongside of a brawling stream of
fine water from the Sierras. At about twenty-
eight miles from Bishop, and at an elevation
of 7280 feet we entered some large sugar
pine, while aspen grew along the stream,
altho' sage occupied most of the level country.
Here we worked for nearly an hour, then
returned to Bishop, our chauffeur driving
like mad on the way back. There we
gathered up our bags, hustled on to
Lamo Station on the narrow-gauge, had a
good lunch and then waited for our train,
which arrived and left nearly an hour
late. From Lamo the railroad follows up
a dry wash, tributary to Owens River, as
far as Benton, then swings to the NE. and
climbs upward, with sharp curves and a
tunnel to Mt. Montgomery Station at

7100 feet. in the piñon and juniper belt. From there it is a pretty steady down grade winding and twisting. to Denopah Junction and Mina. Mina is, if possible, rougher than in 1910, and we had no desire to stay there over night. We got a supper and Morgan hunted up a machine, so at 9, 10, with a full moon, we left for Hawthorne. Our route was back through the hills, and as it trucked about 900 feet it was anything but warm. At 11.15 we were in Hawthorne and soon in bed in a clean, tho' very ancient, hotel. Arrived. One in slough near Bishop.

Kingfisher
Journal about
Bishop
P. Bishop
D. Bishop
valley
in numbers
near Bishop

Clark's Crow, Numerous in Rock Creek Canyon,

March Hawk. One in meadow near Bishop. down to 7000 feet.

Brewer Blackbird. In numbers near cultivated
Mormon Meadows - Lark, Numerous about 13000 ft. land.

Sept. 12,
1919.

Alt. no. /

53.

5 *Crotaphytus*
Hawthorne,
Mineral
Co., Nev.

Hawthorne, Mineral Co., Nevada.

We arose at 7.15 after a splendid night's sleep, had a good breakfast, and then started making toward Walker Lake. The latter is as blue as China, Morgan says and certainly is very beautiful in its desert & mountain setting. Our chief object in coming to Hawthorne was to get *Zadycroptus atripennis*, and on whole days work netted two dead males in the species of thorny bushes and in the evening Morgan picked up one live female in one of these

beaches. Apparently the males are done and the females nearly done. We walked down to the Lake, crossing about five old beaches and found an area of salt grass immediately back of the beach. The results near the beach were most interesting and we soon found we had a more too much time to get back the four miles to Hawthorne if we missed any lunch. We covered the distance in quick time, yours truly carrying the defunct & mummified *Taicycloptera* in the spring mass in which we found him. After lunch we worked in a half circle about a half to a quarter of a mile from town. The best find probably was a small series of *Herbertmannia* pinki. In the evening we made several excursions with the flash-lamp after *Taicycloptera*, Morgan got 1 ♀, 1 ♂, 1 ♂.

Fuller - white beneath on body, wings black-tipped, no black head. Number about Walker Lake.

Sept. 13,
1919.

Film # 8

no 1. Nothing
seen toward

Six miles from
8000 feet in
Mountain Range.

Hawthorne - Wassuk Range, Mineral Co., Nevada.

We were up shortly after six, and after an early breakfast we left about seven in a machine, to go to the

highest point reachable by auto in

film #8 The Wassuk Range. It was quite cool and
 no 2. Mt. Grant, in both were our serates until well
 Wassuk Range after nine o'clock. From Hawthorne it
 from near Hawthorne was a steady climb, to Lucky Boy (6200
 no 3. rather (7500 feet) an even more desolate but
 Lake from same point smaller ci-diant camp, to the actual
 no 4. crossing of the range (8000 feet). This, as
 Zacycloptera the country practically down to Lucky Boy,
 brush. is in the juniper + piñon region, producing
 alc. no. 54 almost nothing, as usual in that region.
 Snake The view to the west, however, showing the
 Between very distant snow-capped Sierras, was
 Hawthorne wonderful. We did not work long at
 + Lucky Boy, the highest place, but dropped down to
 east base of Wassuk Summit, then to Lucky Boy, getting next
 Range, though but little, at the latter. We went back
 Mineral in Hawthorne about eleven, and then we
 Co., Nev. spent until lunch time doing some circling
 Elev. 5500 work near town in an area we had not
 feet. covered, the results being almost nothing.
 After lunch I struck out and spent
 three hours working in the area which
 had been so productive, relatively, yesterday
 afternoon, while Myron had the machine
 take him down to the lake shore and
 bring him back, where he worked along
 the old tracks and dunes for Antonia,
 but he returned without any. After

dash we took the flash-lamps and went out after *Taeniosphecia*, M. W. getting 3 ♀♀, J. R. 1 ♂. Shortly after leaving the truck stage left for Thome, on the railroad, and we were aboard, arriving at the R.R. about 11.50 PM.

Clark's Crow. Numerous in Wassuk Range down to 7000 feet (pinjun). Found the remains of one, with wings & tail feather, but bones picked absolutely clean & dull the work of a hawk.

Brewer's Blackbird. At Lucky Boy.

Lewis's Woodpecker. One at Hawthorne - lit on power-line pole and made a circle into the air after something coming back to the pole.

Maggie. One at Lucky Boy.

Wm. Numerous.

Sept. 14,
1919.

Thome, ~~Atkins~~ Hager and Lovelock, Nevada. We found the train was about an hour late, and we hung about in the dim illumination of the single oil lamp in the waiting room. It was cold out-door, so much so that our overcoats, with coats on them, were more too comfortable. It was 11.50 when we

Train finally pulled out of Thorne, bound
 for Hazel and we dzed off and on
 until 5.07 AM, when the locomotive stopped
 at Hazel. There it was quite cool and
 we were glad to be able to get a sandwich
 and a cup of coffee when we arrived.
 It was nearly seven before we could
 get a full breakfast, and after that we
 went out in the hills, for nearly two
 hours. Our (to the N.) train eastward
 left on the dot of ~~5.07~~ 10.20 AM and it
 arrived at Lorlock at 12.10 P.M. About
 Parrau in the bottom of the Carson sink
 the country is perfectly bare above,
 hummocky with clumps of greasewood
 (Sarcobatus) on the tops of the pseudo-
 dunes. After getting very comfortably
 installed at the "Big Meadows Hotel" and
 having a very satisfactory lunch, we
 left in a machine for the afternoon,
 working on sandy soil with brush,
 gravelly soil with brush and gravelly
 soil bare, or granite outcrops on the
 hills bordering the Humboldt Valley on
 the west here and in an alfalfa
 fields. The results were far better than
 we had expected and we extended the
 range of *Herodiasma* pink and *Depressula*
 by our captures. After having so little
 sleep the night before we made an

early turn in at mine.

Plans. At Lovelock.

Burrowing Owls. Surnal at Lovelock.

Sept. 15,
1919.

alt. no 55
Crotaphytus
Inlay,
Nevada
Elev. 4200
feet

Lovelock to Inlay, Nevada.

We were up at 7.00, after a wonderful night's rest to make up for our shortage of the night before. After breakfast we set out on foot on the road paralleling the railroad to the south-west, going out a mile to a mile and a half, and working in native brush, short and thinly covered grassed areas and in wheat stubble. In the barer spots of the grass lands we had the good fortune to locate several colonies of Melospiza nevadensis. We were back at the hotel by 11.15, packed up and left about 12.30 for Inlay, lunching in the diner on the train. Arriving at Inlay we were soon installed in the little railroad hotel and then visited the postoffice to get our accumulated mail. About 2.30 we struck out into the brush north of the town, finding it heavy, largely Sarcobatus, and in adobe in certain sections and loose sand in others. The best catch was the s.w. edge of the range of

Microtus haydenii rileyanus.
 We spent the evening putting up material,
 getting "dope" on the accommodations
 in the country ahead and transportation
 to move up into the mountains here.
 Burning Owl. A number at Lovelock.

Sept. 16, 1919. Inlay to Carlin, Nevada.

Alt. no. 56 After breakfast we decided to start on
Scioperus first for the slopes of the Star Peak Range
 Prince Royal to the south, as we had no success in
 Canyon, endeavoring to get a machine, but by good
 Star Peak fortune we encountered a man with
 Range, Humboldt Co., a machine who took us up the three
 Nevada miles of slope to the actual cone slopes, at
 Elev. 5500 feet. We then worked a mile or so up Prince ^{about 5000 feet}
 Royal Canyon, to an elevation of approx.
 6200 feet. From this point Morgan climbed
 the slopes to the east up to the top rocky
 crags, at 8000 feet, finding almost nothing.
 In the meantime I worked on the slopes
 to the west of the Canyon, up to about
 6700 feet. Together we started down the
 canyon at 11.30, collected a fine series
 of *Cinctettix carlinianus* on the entire
 slopes, and then drove steadily for town
 on foot. Morgan was tired from his climb
 and I had a lame heel from a nail
 in my shoe. We reached Inlay at

1.35 P.M., rechecked a trunk, packed our bags and got on the train leaving at 1.55, in all some very real hurry. We had lunch & dinner on the train, which we left at 7.05 at Carlin, Nevada. The railroad hotel being full we got a room with two beds in the little hotel "Elm". Mappie. Prince Royal Canyon (one) Great Blue Heron. One near Palisades.

Sept. 17, 1919. Carlin, Nevada to Wells, Nevada.

After breakfast at the railroad eating house, following a wonderful night's sleep in a most comfortable bed, we struck out to the south of the town, across meadows of the valley, to the low, rounded hills on the south. These were largely covered with sage, and like the valley flat were very unproductive. After lunch we tried the hills north of the city, with another lot of meadow, no more successfully. We have supper at the railroad eating house and left at 7.25 P.M. for Wells, arriving at 10.40, a twenty five minute late. We had quite a chase for rooms, the two best places being full. We finally got in a rooming house which looked clean.

Brewer's Blackbird. By hundreds
about & near cattle.

Sage Thrasher. One in sage brush on
hills.

Maggies. Numerous at Carlin.
Turkey Buzzard Two " "

Sept. 18, 1919. Mills, Elko Co., Nevada

After a good breakfast at a Chinese restaurant we started off southwest of town. It was evident that the Ruby Range was too distant for us to get to it, and up any distance, in the time now available to finish the trip. They turned up above the lower hills between them & Mills, quite craggy, with clouds on their highest summits. We worked on the gradual sage covered slopes leading to the foothills, and to the top of the nearer foothills, then back to Mills. Probably our best collecting of the whole day was about the village "dump" on the edge of town. After lunch we swung off to the north, on the meadows with springs which gave the town its name then circled around to the "dump", where we picked up some more desirable things. We had to wait until 10.15 PM to get to Montello, our next stop, where we arrived at 12.25 AM and

was seen in bed in the little railroad
hotel, to which we had wired for reservations.
Phalarope. The small species with no buff
in neck. Swimming about
in a pond in the meadow.

Brewer's Blackbird. Common.

Mappies.

Nummies.

Horned Larks.

Small flocks.

Sept 19, 1919. Montello, Nevada to Ogden, Utah.

Alt. no sp. After breakfast we started off working
Utah. to the northward of the Montello Station.
Montello, and the small town clustered
Elko Co., about it, was low brush on a plain,
Nev.
4800 feet. extending five miles or so to low
mountains, and broken only by a
few very shallow washes and a
low sandy rise. We worked for
four hours, with rather poor results.
After lunch we boarded the Pacific
Limited at 1.25 P.M. direct for
Ogden. The greater part of the Salt
Lake Desert between the Nevada
line and the Lake itself is bare
adobe, becoming more and more
incrusted with saline material as
the lake is neared. The mirages
were wonderful and on each side
as well as behind the train. The

Lake itself has much sparse wash in belt up in its surface. We reached Ogden at 5.30 P.M. (Pacific time) and were soon installed in comfortable, though somewhat antiquated quarters at the "Reed Hotel."

Rain. Size not measuring. Numerous in Salt Lake Desert & about lake.

Winged Larks. Numerous at Monticello.

~~Arts.~~ Cort. Lizard in ^{on floor} pond at water tank in Salt Lake Desert.

Sept. 20, 1919. Ogden Canyon & Sunset, near Ogden, Utah.

After breakfast ^{at the} "Reed" we took a car at the hotel which took us out close to the lower slopes of the Wasatch Range, and from which point we walked about three miles most of it up Ogden Canyon, to a point slightly above Wilson's Sawmill. It was very cold, with a biting wind coming down the canyon. The mountains loomed about us, the canyon being rather narrow, with a splendid mountain stream at the bottom. It was cool for hoppers and it was well after nine o'clock before we found much morning. The south facing slopes carried brush for over a thousand feet above

the canyon bed, while the north facing slopes had fir sprinkled on them in the small canyons, quite down to the ^{main} canyon bed. We worked up about six hundred feet on the south facing slope, getting much interesting material, then walked back all the way to our hotel, just missing a car. After lunch we took the interurban car for Salt Lake City and got off some miles out, at a little place called Sunset. Here we worked a little on an hour and had splendid success in dry roads, shrubs and pastures. A high wind was blowing and very common species made the work of getting the scarce species that much more difficult. We were back in Ogden shortly after five and spent the evening putting up material.

- Sept. 21. Left Ogden 3.30 PM. on Overland Limited.
1919.
- Sept 22. En route.
- Sept 23 Arrived Chicago 11.30 AM.
Left Chicago 12.30 PM in "Broadway Limited".
- Sept 24 Arrived No. Phila. at 7.54 AM.

1921.

89

July 31, 1921. Left Phila. at 1.16 P.M. in Penna. Limited for Chicago. Betts, Clumbro & Bryn Mawr ran through a terrific downpour. The day had been extremely hot & this materially cooled things off. We reached Pittsburg on time.

Aug. 1, 1921. Arrived in Chicago at 9.00 A.M. after a horribly cold night in the sleeper. I had the blanket up over me and could hardly keep warm, but the air was so good I hated to close the window. Chicago was cold and gray. Transferred to Dearborn Station and left at 9.15 A.M. in the "Navajo" (no. 9). Crossing Illinois we ran through several thunder storms and in Missouri several more. We arrived at Kansas City at 9.30 P.M. in the midst of a terrific downpour, which probably continued much of the night.

Aug. 2, 1921. We arrived at Dodge City at 7.15 A.M. Syracuse (Central Time) in a gray morning, with Kansas great hanging cloud masses overhead. As we moved westward the sky lightened but it remained cool and chilly. We arrived at Syracuse about 10.00 A.M. and I was immediately installed in the Santa Fe "Sequoiah." Solving a method of handling baggage which urgently

Film 1 demanded reduction in bulk and weight.
 Exp. 1 came first, and I shipped some ahead
 flashed by parcels post, also secured a car for
 Exp. 2 the afternoon. After lunch I went first
 Sandhill south across the Arkansas, which was
 conditions high from recent rains, to sandhills
 for collecting about two or three miles from the
 P.M. rim. Here I worked on the slopes, tops,
 Exp. 3 in dry swales and along the sandy
 across road, with good results. Then the rim
 Arkansas was recrossed and we ran out some
 Valley from few miles to the north on the high plain,
 to bank where in closely grazed range, with
 of river, brush, patches of yucca (app. *Y. angustifolia*)
 looking and tall weeds. Here *Stuffers* was
 north locally numerous and interesting. Much
 of the latter region is now cultivated, and
 what is still grazing land is overstocked
 from appearance. The day, or rather half-
 day, totalled 201 specimens, or at the
 rate of 800 per diem per diem. I worked
 until midnight putting it up.

Arkansas Flycatcher. Several pairs. (Lyr.)
 Lark Sparrow. One (Lyr.)
 Red headed Woodpecker a number on
 outside of cyprus.

Aug. 3, 1921. Leaving Raton & Syracuse at 9.50 AM. we
 Syracuse, reached La Junta shortly after noon.
 Kans. The Arkansas River was very high, and
 to Raton, many sections of the lowlands were
 N. M. inundated, showing the river had been
 much higher in the last century - two
 hours. Evidence of the Spring freshet this
 year which devastated Pueblo were
 on every hand - bridges gone, logs
 and trash against the bluff slopes,
 and new railroad work. As we neared
 Trinidad it was evident there was
 rain ahead and from Trinidad
 to Raton we ran through the rains.
 We had two pulling and one pushing
 engine on the pass. At Raton I was
 comfortably installed in the Seabury
 Hotel and made immediate arrange-
 ments for a car and driver for-morrow.

Aug. 4, 1921. Leaving the Seabury Hotel at 8.00 AM. with
 Raton + a hodge roadster and driver, we took the
 vicinity, road up Raton Pass, climbing steadily,
 New Mex. the first part just out of Raton very
 & Film 1. sharply so. We passed into a park-like
 Ex. 4 country with bull-pine groves, and
 White flower as we continued to ascend we largely
 growing on left the pines behind and on the
 summit summit of the pass, at about 8200-8400
 Raton Pass feet, the cover was mainly oak scrub.

- Film 1 We had splendid views of the west of
 Exp. 5 the Culbra range of the Rockies, many
 Fisher's Peak is the peaks retaining much snow.
 from Ratm The Sparrow Peaks showed up, quite near
 Pass. at hand, and ~~Pike's Peak~~ ^{Greenhorn Mtn.} dominated
 Exp. 6 the horizon. Fisher's Peak, east of Jimi-
 Sparrow had seemed very close. I worked at the
 Peaks ~~Spoke~~ ^{Greenhorn} Summit for one hour, then we
~~Went~~ ^{Went} (?) from dropped down into the pines about 1500
 Ratm Pass. feet, where we found little. After
 Exp. 7 (?) lunch and putting up the morning's
 Vic. at stuff in case off again in the machine.
 Clifton House headed south, out on the New Mexican
 plains. I worked near Clifton House,
 8 miles due south and had splendid
 results. To the east towered Johnson's
 Mesa and to the S.E. Mount Capulin,
 the old volcano. To the south showed up
 quite a high peak, which I do not know.
 Returning another stop was made just
 several miles out of town, and in a
 grass land environment several interesting
 species were taken, including probably
 one best series of *Paratrillus*. Putting up
 stuff, making notes, etc. Work until ten
 P.M. Arrived, hauled, and along road to Clifton House
 Motom Meadow Lark. Flushed sev. at Clifton
 Lark Bunting. One large flock, in
 mixed plumages along road S. of Ratm.
 Sparrow Hawk. One on telegr. pole near Ratm.

Aug. 5, 1921. Getting the same machine and driver I
 returned to top had yesterday I left the hotel at 8.00 AM.
 of Johnson's and we started for Johnson Mesa off to the
 Mesa, Colfax east. We travelled by way of Caribou and
 Co., N.M. - Yankee, two small mining towns, situated
 return. Along the Chicorica Creek and its east fork.
 From Yankee we began to climb sharply, so
 Film No. 1. much so that we heated up the engine and
 Exp. 7 had to cool it off. Yankee is at 7000 feet
 surface of and in the next three miles we climbed a
 Johnson's thousand feet, the road winding and
 Mesa, looking twisting until near the level of the
 N. from coll. mesa. This latter varies from about 8000 to
 point, with 8300 feet, a few conical peaks rising higher.
 Culbra Range one to 8600 feet, but as a whole it is
 in distance. - rolling grassland, plains without trees,
 largely cultivated and also
 with many cattle, the rich
 lava soil being quite valuable
 agriculturally. I worked
 in the grassland and also
 of Chicorica in an outcrop of the basic lava cap. The
 Creek, betw. material was interesting and valuable,
 Barilla - as this is a piece of very high plains,
 Johnson's probably higher than any similar condition.
 Mesa. Point outside of true mountains, in the state.
 of view 7500 Unless one approaches the edge of the
 feet the mesa it is difficult to realize one is
 so high above the surrounding country.
 Ranches^{houses} are scattered over the mesa,

Film No. 2

Exp. 1.

Rock down

canyon of

East side

Film 1 no. 8

Carpet of wild flowers
along road on
Johnson Mesa
at 8300 feet.

we passed a short and the cattle looked good. The winters are cold with heavy snows, in summer more rain falls than in the lowlands, and in consequence there is more vegetation, even though the mesa top is considered Canadian by the B. & N.

Survey. Such a profusion of wild flowers as grew along the road, in the irrigated pasture, it has never been my privilege to see before. I took a picture to try and give some idea of this variety, of these heads of salmon, purple, white & yellow. One spike of closely placed flowers in a head was a wonderful salmon red. Another more loosely grouped head was purple, a wonderful purple. A lupine like flower was a heavenly blue. Another plant had spikes of small trumpet shaped flowers of purplish white, and another had small yellow, apparently labiate, flowers. Not having a plant press I could do nothing to preserve any. Leaving the mesa we walked down the road, had a puncture and changed tires, and at 7500 feet elevation worked again for about an hour, getting an interesting lot of material in grassy land and along the edge of oak scrub. The view down the canyon from here was so pretty I

could not resist take a picture of it. We arrived back in Catron at 12.15 P.M. After lunch I put up lunch and the usual afternoon shower developed.

Reavis' Woodpecker. A number on Yankee Road.

Maggie. Saw half a dozen in same canyon.

Aug. 6, 1921. Catron to Wagon Mound, Mora Co., New Mexico.
 Catron to Wagon Mound, and back, I left Catron at 9.30 A.M. for Mora Co., Wagon Mound. I did not bother with a Pullman seat, and found the coaches packed. Arriving at Wagon Mound at 11.50 I was soon comfortably installed at the Frye Hotel, a small but clean and rather home-like place, where the food was plain but good and the bed clean.
 Film No. 2. After lunch I started off to the east and
 Expos. 2 Embarked up the lower slopes of a nearby
 Lava butte east of Wagon Mound. (work done on this butte)
 Exp. 3. Lava butte to the east, then pitting
 west of Wagon Mound. higher and finally reaching one of
 1 will find which town gets its name. the summits about three hundred
 feet above the town. The slopes were
 Exp. 4. wholly large irregular lava fragments
 New Mexican with a ^{rather} rank growth of various
 plains N. plants in the crevices, which apparently
 from Wagon acted as water-retainers. Mch, however,
 Mound. Lava buttes moved slowly and material was scarce

Exp. 5. and none at all of the forms easy to
 Environment yet. The view of the lava buttes to the
 in which east, toward the Coronado Hill, the
 Sh. w. *Melampus* striking domed butte to the west
 occurred and the distant Rockies, as well
 lava buttes as the great stretch of plains to the

Exp. 6. north and south, were splendid.
 Another lava hill ending the peak I worked for
 butte east some time in extensive rabbit weed
 of Magn. Areas on the north side of the buttes,
 Mound with in different success, although getting
 Exp. 7 several interesting things. This locality
 Rooking Mts. was along the old Cimarron branch
 toward of the Santa Fé Trail, the route of which
 Culbra are plainly visible, a good road
 Range on lava being nearly. This branch of the trail
 mesa from ran from Cimarron, Kansas, S. W.
 hills E. of + met the main trail at Fort Union,
 Magn. Mound S. W. of here.

Prairie dogs. Several towns betw.
 Raton and Springer.

Aug. 7, 1921, Pagan Mound, Mora Co., New Mexico to
 Albuquerque, Bernalillo Co., New Mexico.
 In the night we had a terrific down-
 pour of rain, which was succeeded by
 a steady soaking, in the meantime
 it turned quite cold. The morning
 dawned cold, grey and rainy and
 it was evident work was impossible
 certainly before my leaving time for
 Albuquerque. I wrote letters and packed
 up and left at 11.50 for Albuquerque.
 It continued bad all the way, and
 ran through a very heavy torrent of
 rain on the Glorieta Pass, and it
 was raining steadily when we
 reached Albuquerque. This stopped
 while I was at dinner and then
 gave place to a thunderstorm which
 started it off ago. Galisteo Creek
 was very high and the Rio Grande
 was running strong. I made arrange-
 ments for a machine to-morrow
 and then went to bed.

Aug. 8, 1921. Mesa between Albuquerque + Sandia Mts. +
 Corales near Alameda, Bernalillo Co.,
 New Mexico.
 Film 2
 Exp. 8
 Exposure. With a machine I left the Alvarado
 at Corales at 8.15 and started east toward the
 where Phos. Sandias. I worked first at a place
 where do
 abund.

not far to the west of the Sandias and
 near where Mogan - I had taken
Plagiostoma in 1919. I summed some of the
 latter, but ranged broadly and summed
 a fair representation of materials. Then
 we moved to a point nearer Albuquerque
 and there I harried a large piece of
 territory, ~~the~~ with not fair results.
 Both localities were completely overrun
 with tumble-weed, and little or nothing
 turned to live in it, while the native
 vegetation was almost entirely two species
 (large & small) of rabbit weed. After
 much, went out with the machine
 again, this time up the rim to Ulaleda,
 and then across the ridge to the
 west saw us, at the little old settlement
 of Corales. Here were extensive areas of
 brown sand hills or at least of sandy
 loam, with scattered crows, which
 produced either a common or numbers
 of both sexes of Diapheromera and a
 few individuals of Pseudoscorpion.
 I have never seen the former in such
 numbers. I took a good series and
 my bottles would hold no more. Thunder
 storms were all around us, but we
 did not get any rain then. On the
 way in we passed, a little way off,
 a barn and a house on fire. Nothing

could be done to help, they were so far gone. In the evening a steady deluging rain fell in Albuquerque.

Aug. 9, 1921. Albuquerque, ^{N.M.} to Holbrook, Arizona.

After breakfast I had the machine take me down the river valley about four miles below the city, where I worked first in a wet meadowy track, then in dry mud flat with *Atriplex* bushes. The former yielded *Paropomala calamus* and *P. ~~virgata~~ virgata*. The latter locality produced quantities of *Geolycus* in the *Atriplex* bushes and most surprising *Mesobryana ferricola* in the dry mud flats. Getting back to Albuquerque at 11.00 AM. I hastily packed, settled my bill, got a bite of lunch and left at 11.45 in the Payo Fast Mail for Holbrook, Arizona. The Mail boasts just one day coach in addition to the solid mail cars it carries and conditions are rather crowded in, while the Mexican & Indian cars are strong compression. The fellow who sat next to me proved to be the son of a Holbrook banker & ranchman, a Harvard graduate, and a most interesting, highly educated chap. We chatted all the way to Holbrook, which we reached at 6.12 P.M., and there he saw I

am safely started for the Commercial
Hotel, which is ⁱⁿ Tucson now. I was com-
forted in a comfortable room, with a
bath, then had a good dinner with my
acquaintance. It was evident as is
well known here. It is ^{very} evident
and the intangible something which tells
me I am in that state, which holds
so many pleasant memories for me,
made itself felt. Whether it is the
people, who are more of the old country
type than those from east of here, I do
not know, but as evening fell I looked
out of the window and across this
great plateau fell that wonderful
sunset and its afterglow which left
no mistake of Arizona, the land of
golden sunset skies.

Aug. 10, 1921, Holbrook, Arizona. After a good, if
Film no. 3. Typically "western" breakfast of bacon
Exp. no. 1. + eggs + coffee, with some corn flakes,
Condition I was off to the north working in the
on red shale and country between the town and
escarpment the first is escarpment, then on the
n. of Holbrook - and upon the mesa above it, over
1 Plugiostrina rolling sandy iron - sometimes
taken here. pure sand, almost in hills, rising
Exp. no. 2. very decidedly above the escarpment,
Bush in which is off the red shales and sand.

Plagiostia stones of the Moencopie formation. Mat.
 was taken serial was very scarce, the only striking
 Exp. no. 3. thing taken was 3 specimens of Plagio-
 looking on stria, taken only after persistent work
 Little Colorado and in different stants. Other
 River from things were extremely scarce, although
 escarpment almost no more was spent in the
 N. of Holbrook. crossing river. After lunch I struck
 Exp. no. 4 ^{down} along the Little Colorado River,
 as the brush working the moister ditches along the
 mesa N. of Railroad, then circling off to the
 Holbrook north and coming back along the
 with badland escarpment. In numerous success
 escarpment was even less than in the morning,
 in distance. Although I added 3 species to the list,
 one of which, *Mestobryma ferricola*,
 Reptile no. I had been looking for all morning
 58, 59, 61, in many suitable mud-flats. After
 62 & 63. dinner I wrote letters and watched
 Holbrook. what I saw of Arizona, the close of
 Aug. 14, 1911. the day, with its color and wonder.

Film no 2, no 5
 Drying mudslide
 with 6 solid
 inches across
 of polywarp.
 no. 6-7. Details
 of north escarp-
 ment of Moencopie
 shale -
 slabs.
 no. 8. Balanced
 rock of harder
 stratum on soft
 stratum in
 escarpment.

Porcill - One on escarpment was lying
 one away, in A.M.
 Shrike - One on telegraph wire in P.M.

Film no. 4, Exp. 1. Erosion in same escarpment.
 G. no. 2. Nest of gannet - the leaves coming it are of
 the *Sarcobatus*-like plant growing in the vicinity. The leaves are
 small & fleshy

Aug. 11, 1921. Holbrook, Navajo Co., Arizona to Gallup,
McKinley Co., New Mexico.

After breakfast I packed and then left at
10.30 AM. for Gallup. This train (no. 8), like
no. 7 westbound, carries a single coach
at the end of the mail cars and its
accommodations are in consequence
somewhat primitive. Near the New
Mexican line we ran into an area of
heavy rain, and it continued with
us to Gallup. I got installed at the
Harvey "El Navajo", got some lunch,
and then struck out to work in the
vicinity. I walked a good distance
and started work in the hills, with scat-
tered juniper and clumps of sage. Nothing
developed at all, everything was wet &
cold, and the rain came again, a steady
soaking rain. I tried to ride it out for
a while, but soon found it was no use as
it was a stager, and no matter how willing
I was to wait the landscape was thoroughly
soaked for the day & work over. Reluctantly
I went in at two o'clock, with no prospects
at all.

nothing

here. numerous in route.

Shrike. One " "

Aug. 12. 1921. Gallup, New Mexico to Albuquerque,
 N. M.
 Film no. 4, I left the "El Navajo" at 8.00 AM. in a machine
 Exp. 3-4. bound for the hills to the east. They look
 Views to north much nearer than they really are and
 from hills four miles is the distance, much more
 E. of Gallup. "by road. We bogged down bad in one
 Exp. 5. very muddy spot and had to have a
 Details of ~~man~~ left by a horseman, who put a rope
 hills at on us. The hills are a double set of
 same. hogbacks running north and south,
 with a valley between. They run up
 to nearly 7000 feet with scattered juniper
 and piñon on their slopes and sage
 on the level at their bases. Collecting
 was atrociously and few specimens
 of new species was the return for
 three hours steady work. My stomach
 has been giving me trouble, and
~~all~~ altogether I was not in the happiest
 frame of mind. Apparently the water
 is responsible for the diarrhoeic con-
 dition, as the natives tell me there is
 much of the same trouble here. I
 left at 2.00 P.M. for Albuquerque, arriving
 at 7.15 and leaving at 8.10 P.M. in a
 sleeper for Vaughn, New Mexico.

Gnatcatcher (gray head) In hills, feeding
 through piñon.

Aug. 13, 1921. Vaughn, New Mexico to Tucuman, New Mexico.

Film no. 4. Falling into a good sleep about 2.05 AM.

Exp. no. 6. at three the faithful porter awakened me, Prairie dog as I had to get off at Vaughn at 3.20. This at once, accomplished I found to my horror that distant the little Parry House there was filled up. ab. 50 feet. The clerk on duty didn't seem to have a Vaughn. very clear idea on anything, but thought he

Exp. no. 7 might have a room at 8.05 AM. He was general quite communicative about any other hotel conditions or rooming house. While away the time at Vaughn, until day came. Then I discovered what looking looked like a promising rooming house U.W. nearly, and on inquiry addressing to a patron leaving it was to the effect that it was clean and comfortable. They had one empty room which I soon annexed, and, after about a half hour's rest, I changed to work clothes and before eight o'clock sallied forth. The country about Vaughn is rolling plateau plains with far off to the N.W. a high mesa, probably the Mesa Quemada, a few low rocky exposures within 100 to 200 miles of the town. The range, which is all there is here, has been pretty closely grazed in spite of the fact that there has been much rain. I worked from before eight o'clock to nearly twelve

with disheartening luck. Stuff was
 terribly scarce, that is adult, and it
 looks very much as if this was from
 2 to 3 weeks too early for this elevation—
 approx. 6000 feet. Why this should be here,
 when things were quite good at Clifton
 House nine days ago, with game and
 some few hundreds of feet higher is
 hard to understand, unless the Pecos
 Mesa there acts as a protecting barrier &
 cuts down the cold north winds. After
 lunch I put up stuff and a heavy rain,
 which was a possibility from 11.00 AM
 on, set in. This rain was steady until after
 four o'clock, completely soaking everything
 and all chance of further work at Vaughn
 was gone. At seven o'clock I took the regular
 machine which runs over to the Rock
 Island station, which is between two
 and three miles away from the Santa Fe
 station, and at 7.45 (Mountain Time) P.M.
 I boarded the Golden State Limited. This
 landed me, very tired and sleepy, at
 Tucumcari at 10.25, on time, having
 made up eighteen minutes. I was soon
 in a comfortable bed at the Venable Hotel.
 Named Larks. Flocks of them at Vaughn.
 Burning Owl. One at Vaughn.

Aug. 14, 1921. Tucuman, Tucuman Co., New Mexico.

Film 4 After a wonderful sleep, without a break, Exp. no. 8. after the rather harrowing experience of June of the night before, I had a very breakfast conditions and sallied forth. The storm of yesterday at day afternoon was apparently one of Tucuman. Rather broad scope, as the whole they looking W. was covered with gray cloud masses, much like during a northeaster at home, but not as much of a monotone. The air was chill and my first hour was a cheerful one, as I encountered almost nothing. I had started off to the S.W. of the R. R. station, and the land I had to cross first had been badly ungrazed. A small field of corn, enclosed with a fair lot of plains vegetation in undisturbed condition looked attractive and it was found to be a splendid environment. Here, and beyond in a very extensive area of ungrazed native sod I spent ^{the remainder} of the morning, getting a splendid series of *Campylacantha*, *Melanoplus*, *canipes* and many other things. After much I returned and worked some widely in the native sod adding to my series a number of species and also putting additional species in my day's list. I had the

measure of taking three genera of Phasmodae: Parabacillus, Pseudoscorpion and Heliophorus - in the afternoon. A heavy storm was gathering and at first I realized I had a large crop to take care of, so I returned and put up material. Most of the UMM staff had been prepared at noon - until 1.15. A good dinner with a T-bone proved welcome to my tired body. The storm broke while I was at dinner, but didn't last long. The remainder of the material was taken care of, and I was in bed by 10.00 P.M. Mountain time. The train uses Mountain time, although going east the trains lean on Central time.

jaunt's or scaled insect (could not see breast) seen with coveys of young flushed in heavy grassland. Male flushed, female figured broken wing.

Aug. 15, 1921. Tucuman, New Mexico to Guyman, Texas Co., Oklahoma.

Exp. no. 1. Another night with a splendid sleep and I was awake early as I had in my mind that must take Central time when leaving Tucuman, and that meant an hour lost. After a good breakfast at the "Waffle House", where I

had dinner last night. My train left at
 9.45 AM. Central Time, and I had a
 tiresome ride until 2.35 PM. to reach
 Geymore, Oklahoma. The country gradually
 passed from a high rolling plains with
 the horizon dotted with hills and
 mesas, as at Tucuman, to lower
 more level plains, with more and more
 of their surface under cultivation. The
 deep valley of the Canadian river was
 the only considerable indentation in the
 surface crossed. Geymore is a typical
 prairie plains town, with electric wiring
 but no current "Oklahoma" expresses it,
 but an effort to be western but suburban
 in appearance. Work in this part of the country
 does not appeal to me. Installed at the
 little "Pike Hotel", clean but very ordinary,
 I sallied forth and in the vicinity of the
 town found more than enough to keep
 me busy all afternoon. This in flat
 grass fields, windy strips, etc. We had
 a rain early in the evening and this
 was followed by a wonderful moon. I
 had no moon, as it was in the
 clouds.

Aug. 16,
1921.

Guyman, Texas Co., Oklahoma to Walhart,
Texas.

After a splendidly cool night and a wonderful sleep I was out again a few minutes after eight o'clock. I pushed beyond where I worked yesterday afternoon and I worked in a piece of shoulder-high grass, with splendid success, and also gave the short grass country more attention. The general results were splendid. I was back shortly before noon, worked hard to get my stuff put up, and packed. I left Guyman about 2.50 P.M. for Walhart, seventy-odd miles to the north west, the business center of the upper ^{"pay"} "handle" of Texas. Arriving at 5.10 P.M. I was soon settled with fair comfort at the Mc Soto Hotel, a pretentious hotel, which is sadly out of joint in some ways.

Morning Glory. Frequent betes, Guyman
to Walhart.

Meadow Lark. Frequent ditto.

Vesper Sparrow. Numerous ditto, some flying (ab. 3.30 P.M.), others roosting in posts of oak wire fence and others roosting anywhere in the wire itself.

Aug. 17, 1921. Dalhart, Texas to Childress, Texas.

After breakfast I went off to the west of the
 Film no. 5 - town along the R. I. and worked for a stretch
 Exp. 2. of a mile or two, getting excellent results,
 general although ungrazed or uncultivated country
 environment is at a premium. When I reluctantly
 of work at had to stop, to be able to take care of my
 Dalhart material and make my train, I had
 Exp. 3. on two hundred specimens, which is
 View looking into a series for one man, when the
 S.W. at necessarily selective character of the
 Dalhart work is considered. The preparation of the
 material took considerable time, as
 quite a lot required dip treatment. My
 train on the Fort Worth and Denver City
 R.W. was due to leave at 2.58 P.M. but it
 was 2.50 before it did depart. This road is
 not a wonderful line, and you are glad
 it does not run any too fast after you
 see some of the road bed. The country
 for fifty miles or so S.E. of Dalhart is
 rolling high plains, then you enter
 an area of loamy sand or pure brown
 sand hills and billows, near Amarillo,
 and then you cross the broad valley
 of the Canadian River. Half of this
 bed is loose sand, and with a strong
 wind blowing from the south, from a
 storm area, the whole air was filled

with clouds of sand. These I had noticed in the horizon when away to the north, and could not tell what they were. All in all the landscape was one of the ugliest and most forbidding I have ever seen. We reached Amarillo at 6.45 in the tail-end of the rain storm. It is quite a city, with an imposing solidness, at least from the railroad. Beyond Amarillo we had a wonderful double rainbow, backed on a washed gray sky & lighted by a golden sunset. We reached Childress at 11.05 PM and I was soon installed at the Rhea Hotel, a large but antiquated though clean, place.

Aug. 18, 1901. Childress, Texas to Amarillo, Texas.
 After a satisfactory breakfast at the railroad eating house I started off to the east and soon realized that Childress is a sprawly town, like many of the town country of Texas, and also that the vicinity is very well cultivated. I had the greatest difficulty to find territory which was not either cultivated or old fields, and these were only small patches. The heat was terrific, the humidity marked, and the latter was very evident

after having worked in more arid localities. The results were rather meager, a few good things, but the right plain forms almost all gone, and the typical elements but weakly indicated a return again. In the afternoon I tried another direction with no better - in fact as a whole poorer results. Going in and parking I left at 6.00 P.M. for Amarillo, getting dinner on the train. I arrived there at 11.00 P.M. and soon found Morgan at "The Amarillo Hotel", and after swapping experiences we went to bed about 12.15 A.M.

Scissor-tailed Flycatcher. Few at Childress -
 there were moulting & the tail feathers
 were only in process.

Wren. Few! at Childress.

Night Hawk. Few. at Childress.

Aug. 19, 1921. Amarillo, Texas, Palo Duro Canyon,
 to Canadian, Texas.

Large camera and tripod & stand. After a good
 3 exposures breakfast we started out with a machine
 at Happy which Morgan had hired, for Palo Duro
 & Crossing.

Palo Verde Canyon, where at Happy Canyon Crossing,
 Canyon. Some eight miles from Amarillo, we
 worked most successfully all morning.
 Palo Verde Canyon is a deep trench
 in the Staked Plains with a stream
 in the bottom which flows into the
 Prairie bog fork of the Red River, in
 fact it is one of the headwaters of that
 river system. It is approximately two
 hundred feet deep, and one comes to
 the edge without warning. The upper
 slopes of the canyon show marked
 exposures of an apparently fine conglomerate,
 while grassy bench slopes lead down to
 the bottom of the canyon, which has a
 thick stand of cottonwoods. We worked the
 upper slopes, the benches and the bottom
 and took over three hundred specimens,
 the majority of large size. Returning to
 Amarillo we had lunch and then
 tackled the task of putting up our
 material, which occupied both of us
 solidly until after four o'clock. Packing
 then, we left for the Santa Fe station,
 where we had a good supper and left
 at 6.30 P.M. on the Santa Fe for Canadian
 Texas, 98 miles away. The train was
 a decided contrast to the one I used
 last night, as the roadbed was smooth
 and we averaged over forty miles an

hills. For many miles we saw
the perfect level surface of the Great
Plains, this as darkness fell gradually
breaking down to the valley of the
Canadian River. We reached Canadian
at 9.25 P.M. and were soon installed
in a comfortable room at the Hotel
Moody.

Night Hawk. Numerous at Amarillo &
between there & Canadian. Some worked
on wire fence posts & one on the
glass insulation of the telegraph wire.
Swainson's Hawk (apparently - base
of tail white, tip dark). Numerous
about Amarillo & betw. there & Canadian.
Red-bellied Woodpecker. Two hanging a
round cottonwood trees in vicinity of
Palo Verde Canyon.

~~Wooded Rocks. Numerous.~~

Dark Bunting. Numerous between
Amarillo & Palo Verde Canyon.

Aug. 20, 1921. Canadian, Texas to Amarillo, Texas.
 Alc. no. 65. We had a splendid night's sleep in comfortable
 beds and a good breakfast at the Harvey
 Phrynosoma, eating house at the station. Then with a
 Canadian. Fred & I drove started out across the river
 Texas. flat, crossed the river and pulled up to
 Aug 20. the summit of very weird and ragged
 Film no 5 sandhills which dominate the north
 exp. 4. side of the valley. These were covered with
 Looking SW. tall grass, thickets of wild grape and
 other bushes, with a few "blow-outs". Here
 at Canadian we worked for nearly three hours with
 Rim Valley splendid ~~and~~ success. Then we dropped
 Exp. 5. part the way down the hills for about
 Sandhill thirty minutes work, following this by
 Conditions about the same time in the tall grasses
 at Canadian and reeds of the river flat. It was nearly
 exp. 6 one o'clock when we reached the hotel
 General sand- with a large haul of specimens, and after
 hills cond. lunch we worked steadily until five
 at Canadian preparing, but not packing the material.
 exp. 7. At four we were off for about an hour, which
 Butte on we spent on a large butte, an outlier of the
 which Airo-Staked Plain escarpment. Here we found
 better was Cricotillus and put on time in quite
 taken at profitably. The butte must have reached
 Canadian nearly a thousand feet above the Canadian
 exp. 8. Rim and about three hundred feet above
 General cond. its base. A rush back to town followed,
 among buttes and gathering our belongings and getting
 S. of Canadian

a good supper at the Harry House we left at 7.00 P.M. for Amarillo, where we arrived shortly after two o'clock, and put up material until we in the morning.

Arkansas Flycatcher. Serval at Canadian
Mourning Dove. Serval at Canadian.

Aug. 21, 1921. Amarillo to Lubbock, Texas.

We were up at 5.45 A.M. and breakfasted at the Harry House lunch room at the station. Our train left at 7.15 and we travelled all of the 118 miles to Lubbock on the level surface of the Staked Plains. We arrived at Lubbock at 11.13 A.M. were soon very comfortably installed at the "Lubbock Inn" and had a splendid fried chicken dinner. After this we got a Ford and drove and recommenced to find a place where the head draws of the Brags broke down the plains surface. Locating a large one of these we worked for some three hours and took a good series of material. The level plains is maintained by a capping layer of hard limestone and where this breaks down draws and finally canyons are eroded in soft underlying

strata. It was extremely hot, but a very strong wind modified this somewhat, although it made collecting much more difficult. The cultivated fields, of which there are many, are largely in sorghum, kaffir corn, fetterite and Sudan grass, with some maize, while there is much land for cattle grazing. The evening was occupied in packing & putting up material for *Lanius* Hawk. One dead in fence at ^{Hubbuck} Hubbuck.

Aug. 22, 1921. Hubbuck, Texas to Clovis, Curry Co., New Mexico.

Sm. cam.
Film no. 6
exp. 1.

Habitat

It was still solidly dark when we were called at 5.00 AM. to make the 5.53 AM. train to Clovis. We had of *Plagiostira* time merely for a bite at a little in sandhills eating house near the station, near Camero, corn flakes & coffee without sugar, not very substantial but it lasted us until we could get more at Clovis. The train was only five minutes late, so we were soon on our way. The country for the whole 118 miles to Clovis is uniform Staked Plains with hardly a swell or break to it. Between Milesboro, Texas and Texico, N.M. you can see off in the distance low sandhills. The only appreciable difference between

the Clovis region and that about
 Lubbock is that the former is drier,
 the grass as a whole sparser and
 bear grass (*Yucca angustifolia*)
 much more abundant. We were
 soon installed in comfortable rooms
 at the "Gran Quivira," the Harvey
 House, and got a bite more break-
 fast. Changing back to Mtn. Time
 gained us an hour and it was
 about 9.15 when we started out. We
 spent the morning working in short
 grass just south of the railroad,
 and also in tall grass along
 the track. The results were fair
 but not startling. After lunch we
 shipped a case containing eleven
 cigar boxes filled with specimens,
 then at 2.00 P.M. with a machine
 and driver we started for sandhills
 ten miles south. We found them
 near Cameo, in Roosevelt County,
 and worked there for nearly two
 hours, getting two nice *Plagiostoma*
 (one each) and a striking *Arcturaea*, among a series of nearly
 two hundred specimens. Back
 at the hotel at five we were until
 after nine o'clock packing &

preparing material. After succession early morning hauls we were tired when we went to bed shortly after ten.

Arkansas Flycatcher. Several at Cloris
 Park Bunting. Several just sized
 flocks betw. Cloris & Cameo.
 Burrowing Owl. Sev. betw. Hubbs &
 Cloris, near "dry-brains"; one
 perched on fence post.

Aug. 23, 1921. Cloris, Curry Co., New Mexico to Roswell,
 Sun. cam. Chorro Co., N. M.
 Film 6, no. 2. After packing and getting breakfast
 surface we found that our train would be
 condition delayed, due to the lateness of an
 in mesa eastern connection. It was 10.45 AM.
 at Roswell instead of 9.30 when our train for Roswell
 large considerably left. For some miles the
 Sandhills country was similar level stretched
 at Cameo Plains to that about Cloris, but then
 taken from we struck the same sand area near
 train. Cameo where we worked yesterday.
 From then on plains with areas of
 dull reddish sands alternated
 until near the Pecos Valley, where
 rather sharply we started to drop
 down in a winding draw. The valley
 spread out before you, with in the

distance the Capitan Mts., and in
 the far distance Sierra Blanca. The
 vicinity of Brownell is very attractive
 and the town itself leaves a most
 pleasing impression, being very substantially
 built, with tasteful buildings and
 beautifully shaded streets. The presence
 of water is clearly evident, as it is
 artesian in this region. We were
 very comfortably quartered at the
 Elden Hotel, which is clean, comfortable
 and fully satisfactory. Getting a
 car & driver we started to the west,
 to spend some hours on the rising
 ground in that direction. We were
 soon out on a rolling mesa-like
 bench, overlooking the valley, where
 limestone outcrops were numerous.
 Here we worked in dry brush of
 rabbit weed, a few *Covillea*, scattered
 cacti and other desert type plants.
 We also worked in shale formation
 of heavy to rabbit weed, in small
 areas of mud flat and mes-
 section, near standing water, of
 rank grasses & weeds. We were back
 at the hotel at 5.30 with an interesting
 haul, with the first *Trimerotropis*
magnifica not taken by either of us
 (I got it) while Morgan has taken

a few fine yellow-winged *Lepus*.
 We had our material packed by
 7.20 and were soon in bed.

Meadow Park. Sw. betw. Clovis & Roswell.
 Shrike. One betw. ditto.
 Lark Buntings. Flocks betw. ditto.
 Hens. Frequent ditto & at Roswell.

Aug. 24, 1921. Roswell, Chaves Co., N. M. to Carlsbad,
 Soc. Cam. Eddy Co., N. M.
 Film 6 no. We left the Gilder Hotel at 8.00 AM with
 3. Broken the same machine we had yesterday
 country and ran off to the north about
 at Melena fifteen miles all told. I dropped
 N. M., looking off at one point and worked our
 west (Capitan on horse and a half in low
 in det.). hills of Caliche and broken lime-
 stone with few *Covillea* and
 mesquite mats, much scattered
 grass and on the flat at their
 bases much rabbit weed. I had
 good success, getting among other
 things two pairs of *Ceanothus*. May
 ran on and worked in Pecos
 River bottom, on similar hills to
 those I examined, on the bench of
 the mesa in back of the hills,
 with fair results. These localities
 were near the station of Melena.

Running back to town we examined an alkali flat and a piece of heavy brush and creek bottom, with amazing success. Getting a hasty lunch we left Roswell at 1.10 P.M. and travelled to Carlsbad, seventy-six miles away. We followed the general course of the Pecos for the greater part of the way, then an extensive mesa compelled a diversion across the river, near one of the large irrigation dams, and quite a zigging through the hills on the east side, pulling quite up to the Blanco escarpment. A sharp drop then brought us to the Pecos - Carlsbad. It was a very dirty ride, the dust being very bad. We arrived at 4.00 P.M. put up at the Crawford Hotel, a very attractive and neat place, and packed material until dinner time. This prove to be excellent.

Named Rocks. Flashes Mts. Roswell -
Mileva.

Road-runner. Two near Mileva.
Mocking bird. One at Mileva.

Aug. 25, 1921. Carlsbad, New Mexico - en-route to
Albuquerque & Pueblo.

sun. cam.
Film 5
exp. no. 4
Juniper,
sotol &
ocotillo on
hills S.W.
of Carlsbad.
exp. no. 5.
Catsclaw
thicket at
ditto
exp. no. 6.
general
land at
foot of hills
N.W. of Carlsbad
exp. no. 7.
damned. unim-
ment of
acrocara
at ditto.

We arose quite early, before six, and after a very
good breakfast and some hunting around
we managed to get a man and a
machine for the day, a Ford but it fully
served its purpose. In the morning we
went off to the northwest in a section of
rolling hills of limestone and caliche,
with scattered juniper clumps, much
sotol, ocotillo & a few Covillea, with
much more Covillea and blackbrush
on flatter land of similar formation
at the foot of the hills. Here we worked
for some hours, with good success, getting
among other fine things Acrocara,
Agracobaella, Boottettia and Hesperotula.
We also worked at several localities on
the more level country at the base of
the hills. Going in just at noon, after
five hours, we put up material, had
lunch and were off again at two, headed
toward hills N.E. of the town, across
the Pecos River. Here ^{at a place called Arroyo} we worked until
nearly four-thirty, getting many good
things. Boopedus, Paratettix, Syrbula,
Fuscovittata etc. We were back at the
hotel at five, put up material, packed,
had dinner & were off in the Albuquerque

que sleeper at 7.30 P.M. We found that the hills at Carlsbad had a decidedly Chihuahuan *Rumex* *summarum* element while the Great Plains influence is very attenuate, far more so than at Roswell, clearly illustrating the Chihuahuan penetration of the valley. This element is more marked on the hills & hill flats than in the valley bottom, at least so it would seem in the field.

Mourning Dove.	Common at Carlsbad.
King Plover.	One at Abo.
Rock Buntings	Sw. flocks near Carlsbad.
Mocking Bird.	One at Carlsbad.
Shrike.	Numerous at Carlsbad & Abo.
Scated Quail.	Several coveys near Carlsbad - group.

Aug. 20, 1920, ~~W~~ En route to Albuquerque & Pueblo.

We arrived at Clovis, where our car laid over until the arrival of ^{train} ~~train~~ from the east. We had a good ^{early} ~~good~~ breakfast and the train to the West, a very heavy one, left some minutes after nine A.M., its scheduled leaving time. We had a good view of the country betw. Clovis and Bellevue, the gradual change from the level plains

to the more broken country about Millard and in the Estancia Valley. We passed through a very considerable canyon to the south of the main Mangano range, with deep cuts and much rock work. Arriving at Belen our car was put on a train from El Paso and we arrived in ~~El Paso~~ ^{Albuquerque} shortly after seven P.M. As we had to leave at eight P.M., with sleeper tickets and dinner to get, we were quite busy. As upper berths only were secureable we went "up stairs", and in passing over both Glorieta and Raton Passes it was quite chilly with warm periods between. In consequence I ~~could~~ caught quite a cold. Burning Out. Number 14. Clovis - Millard.

Aug. 27, 1921. En route to Pueblo and Salida, Colo.

We breakfasted at Trinidad and arrived at La Junta at 10.20 A.M., getting lunch there and leaving at 12.15 P.M. for Pueblo. On the outskirts of that city evident of the flood of this spring began to be evident. Railroad bridges were tangled masses of steel, freight cars upturned and smashed, wooden houses rolled on on their sides, brick steel furnaces undermined, steel water towers crumpled, brick walls breached and gone and general desolation on

all the low lying land. Going to the ~~the~~ hotel (Vail) from the railroad station the water mark was evident in most of the buildings which were not demolished. The Union R. R. station had been a heavy sufferer and the Hotel had water half way up the first floor. The plaster had been badly damaged and the electric work was all temporary, apparently the original wiring having been provided. We were sent out with a machine and worked for about two hours on prairie land S.W. of the city. The results were fairly good in variety and we rushed back, Morgan picking up a no. 1 camera on the way. Our material was now prepared, we had an excellent dinner and were about aboard the 8:15 P.M. D. & R. G. train bound for Salida. We were unable to get seats in the Standard Pullmans so we went into the Tourist, which was very clean and neat. We left some minutes late, and we continued to lose time until we reached Salida at 12:35 A.M., about 40 minutes late. We were accommodated in the little Rainbow Hotel and in bed, with an ice-water breeze coming in the window.

Aug. 28, 1921. Salida to Monarch Pass, Saguache Range and return.

- Film no. 6. We had a good breakfast at the Commercial Cafe and then managed to get
 no 8. Looking back a man to take us several miles to
 turn east the bench of the mountains. We worked
 side of Monarch upward probably to approximately
 Pass, ^{found} 8000 feet, the turn being 7050 feet, largely
 Arkansas through park-like areas of juniper
 valley & Salida and piñon, on massive like ridges,
 from approx. with deep arroyo-like stream beds
 9000 feet between. This work was on the lower
 Film no. 7. slopes of Methodist Mtn., which probably
 sp. no. 1. reaches about 10000 feet, while the N.W.
 from Monarch of us turned the Collegiate or Saguache
 Pass, ¹¹²⁰⁰ 10200 feet Range, with the Park Range on the
 looking N. on east side of the Arkansas valley.
 junction We walked back to turn, put up part
 valley. of our material, had a good lunch
 no 2. Film and then left in a machine for the
 line peak afternoon in the region of Monarch
 at Monarch Pass. This was a wonderful trip,
 Pass. riding up, climbing steadily,
 no 3. View to past the massive turn of Monarch
 east from (10080 feet, on a road largely in
 Monarch Pass. perfect condition to the summit
 of the pass at 11200 feet, in winter-
 line conditions. We reached there
 in quite a storm and had to
 wait a while before attempting to

work. Then we scoured on a low hill
 extending about three hundred feet
 above the pass, with good results, getting
 a fine series of Melanerops excelsus
 and also of Gymnoserus. We had
 had trouble with the clutch of the
 car on the way up and when the driver
 endeavored to turn it at the pass's
 summit he had jammed his gears
 so that the car was stalled. It was
 bitterly cold and we had only thin
 cotton shirts on and we suffered quite
 a little. Several cars stopped to help
 and one company insisted that I go
 on down with them, as I had a very
 evident cold, while Morgan elected to
 stay and help the cripple. We ran down
 rather slowly and got to Salida in a
 heavy rain. I intended to get some
 ginger and Morgan came in while
 I was eating. They had temporarily
 repaired things sufficiently to navigate
 and they came in about forty minutes
 behind the car I was in. We had our
 favorite T-bone, made arrangements
 for another machine for the next
 day and packed our stuff and turned
 in, tired out and needing rest.

Aug. 29, 1921. Salida to Monarch Pass and return.
 Sun. comm.
 Film no. 7
 Exp 4.
 Environs
 near
 Maysville,
 Colo.

We were up shortly before seven and
 at eight o'clock we left with a driver
 named Willow and a big Cole car. Our
 plan was to work at a number of
 stations on the east side of the pass and
 one on the west side, in Gunnison
 County. The morning was wonderfully
 clear and brilliant, but it was not
 long before clouds began to gather and
 numerous storms were in sight,
 although we had the extreme good fortune
 of not getting in ~~at~~ any, although
 they were all about us. We worked
 first near Maysville, a small settle-
 ment in the lower section of the long
 valley which leads up to Monarch Pass,
 and at an elevation of approximately
 8000-8500 feet. Here slope exposure was
 beautifully illustrated, the north facing
 slope being solid aspen, the south
 facing slope scattered bull pine, heavily
 culled and low growth of the Arkansas
 Valley type, which element was well
 represented in the Crest. Next we worked
 above & below Garfield, an old and
 nearly extinct mining town at 9000
 feet. This was fully Canadian in
 anyway. The town of Monarch at
 10028 feet was our next point, an old

and descent, although famous or infamous mining town of several decades ago, the site of the Monarch Mine, which is high up on the south slope of the valley, probably 500 feet above the town. This vicinity is upper Canadian and above the town a few hundred feet is a beautiful meadow which is really Hudsonian. We worked again at the summit of the pass and added desirable series, then we dropped down on the west side, into the Pacific drainage a short distance, to approx. 10,000 feet, where we spent a little time in a Hudsonian meadow. We worked comfortably to Salida, adding material from each of the stations examined on the way up. We arrived in town at 4.00 PM and had our material all taken care of by 6 P.M.

Magpie. Saw at approx. 8000 feet.
 Hawk. Numerous up to at least 9000 feet.
 Sparrow Hawk. Near Salida (?)

Aug. 30, 1921. Salida, Colo. to Gunnison, Gunnison Co., Colorado.

I was up at 4.45 AM. as our train was due to leave at 6.00 AM., but after dressing I learned it would not leave until 7.00 on account of delay of a ~~connection~~. Getting breakfast in the car hours we were aboard and settled when the little narrow-gauge left at 7.00. The engine with which you start and which takes ^{you} up Marshall Pass and down to Sargents in the upper Gunnison Valley is a most remarkable one. It has the drivers which are very fine, inside of the frames, with very large counter-weights outside. It is very powerful for its size, however, and this single locomotive takes ^{you} up and over the Pass without any additional help. Leaving Salida you go up a slight but appreciable grade to Poncha Junction, then turn sharply south and start climbing in earnest up the canyon which leads to Poncha Pass. At Meads Junction you leave the Poncha Pass line, which goes to Alamosa and in real earnest start climbing the mountain side in long

swinging curves with many deep
 cuts and sharp fills. In a surprising
 short time you have gotten to the
 point where Meads Junction is a
 tiny little place below you, and
 still it is up and up. The summit
 of Marshall Pass (10856 ft.) is largely
 in snow sheds, and here you halt
 just long enough for the brakes to
 be examined, and no time is
 available to get out of the shed &
 take any pictures. If the winding
 up on the east side was complicated
 and steep that on the west was
 far worse, and in a surprisingly
 short time we were well down in
 a deep valley and soon arrived
 at the town of Sargent, where we
 changed to an engine with larger
 drums. I might add that Marshall
 Pass is not at timber-line, but is
 weak Hudsonian with strong Canadian
 influence. It is more nearly
 comparable to the meadows above
 Monarch than to any place seen so
 far by us. From Sargent we travelled
 rapidly the bordering mountains fitting
 down and the timber gradually
 disappearing, giving place to sage, which

goes very high in this region. This type of country continues until one reaches Gunnison. We reached there at 11.30 AM and after a little hunt we finally got a very comfortable room in a private family - Lodge just by name. We had a splendid lunch at a Japanese restaurant, and in the evening a wonderful dinner, with an excellent T-bone steak, at the same place. We managed to get a car to take us out and for some distance up the hills north of the town and here we spent two hours with fair profit. In every direction were mountains, some to the S. E. and N. W. with snow patches.

Heard 1 Setis, Sayent & Gunnison
Agave 1 Bluebird (no brown) Numerous
in Gunnison.

Aug. 31, 1921. Gunnison to Montrose, Colorado.
Three pictures taken in
Gunnison Canyon
3 A. We were up at seven and breakfasted at the Rainbow Cafe, not as good as the Inn, who was not open at that time. We then went out for a short time in open land adjacent to the town, with very poor success. Our train to

Montrose was due to leave Gunnison at 10.30 AM. but it was now before it finally did get away. A short distance west of Gunnison we got into the Black Canyon of the Gunnison and getting out into the open observation car which they put on at Sapinero we had a splendid view, including Curcanti Needle, until a heavy shower drove us back to our car. At Cimmaron, where the rail has turned out of the valley of the Gunnison itself into that of Cimmaron Creek we had our dinner, a fair one, at a little railroad eating house. From Cimmaron it was necessary to have a helper engine to help us up to Cero Summit 7900 feet, then it was downhill into Montrose, which we reached rapidly and arrived about 4.00 PM, two hours late. The vicinity of Montrose is largely given up to agriculture, the broad level lands of the lower Uncompaghe River valley being irrigated from several sources, the being water brought from the Gunnison River by way of the famous Gunnison Tunnel.

Red-shafted Flicker. One at Gunnison
 Horned Lark. One found injured at
 Western Meadow Lark. Seen at Gunnison.

Brewer's Blackbird Common at Gunnison.
 A white-bellied swallow - but which species
 is? Numerous at Gunnison.

Sept. 1, 1921. Montrose to Telluride, Colorado.

After a breakfast at 7.30 we were off
 at 8 in a machine for work up the
 canyon near Cedar Creek, which
 we descended yesterday in coming
 from Cerro Summit. The rain of
 yesterday had made everything deep
 pasty mud and our first stop, about
 four miles from Montrose, was a
 sea of mud, which, however, netted
 us a few good things. We next moved
 up into the canyon near Cedar Creek
 and worked there several hours then
 ran on to the outlet of the famous
 Gunnison Tunnel for the irrigation of
 the Uncompahgre Valley. Just then a
 heavy rain, which had been hanging
 over for several hours, hit us and we
 realized our work was done. Gunnison
 Tunnel 6 miles long, drop 1 foot to the
 mile. Returning to Montrose we
 packed our material, had lunch and
 were at the station at 2, for our train
 to Telluride, which, however, did not
 arrive for an hour and a half, and
 didn't leave for two hours. The ride
 to Ridgway was a steady climbing

up the narrow valley of the Ducompsalgre with changing vistas of the great peaks of the San Juan Mts ahead of us. At Ridgway we were made over and taken in tow by a R. G. S. engine and we started for Telluride, climbing steadily 2000 feet to Dallas divide on the worst piece of railroad track I have ever been on. Without exception the ties were in bad condition, many broken, and the rail only spiked ^{hit} a miss. ~~As~~ ^{the} sunset ~~of~~ ^{on} the now close at hand peaks of the San Juans - Mt. Hayden, Meane and Sniffel was wonderful and we enjoyed it as fully as the track would permit. Just at dark the Dallas divide was crossed and we started the drop to ~~the~~ Vance Junction and then we climbed up to Telluride, where we arrived at 9.30 P.M. We were soon settled at the New Sheridan and had a wonderful dinner.

White-bellied Swifts. Numerous at Cedar Creek.
Brewer's Blackbirds. " at Montrose.

Sept 2, 1921. Telluride to top of St. Sophia ridge,
San Juan Mts., Colorado.

After a breakfast at 6.45 AM. we started
at 7.40 with saddle animals and a
very congenial boy to guide us, for
the top of the ridge on the north
side of the San Miguel Valley. We
started climbing immediately from
the town, up a good wagon road which
goes all the way to the Tom-boy mill.
The peaks about us were in some clouds
when we started but we were in
hopes that they would clear up. We
pushed steadily upward, not stopping
on the way, as we wanted to work
high up before the rains could start.
We passed the great Smuggler Mine
at ^{11,000}~~11,500~~ feet, and at ^{11,500}~~12,000~~ the equally
large Tom-boy Mine, which also has
its mill at this elevation, while
the Smuggler brings its ore down to
its mill in the valley a mile above
Telluride, i.e. up the valley. The
Smuggler Mine is a short distance
below timber-line, the Tom-boy
directly at Timber-line. We started
work in wonderful alpine meadows
just above the Tom-boy, with pikas
bleating and innumerable whistling
about us. The clouds were gathering

heavily by this time and we decided
 to push to the top of the ridge,
 hastily examine it and then work
 down. The trail half-way between
 Tom-try and the summit ^{from George Basin} steepened
 very greatly and some few hundred
 feet below the summit we left our
 animals with the boy and climbed
 the remainder to the ridge (13100
 feet) on foot. There a hail storm hit
 us and we took a little shelter in
 a cabin there with a line-man who
 was looking after power and telephone
 lines which crossed the ridge to
 Sitka on the S. E. We took several
 pictures which we hope will turn
 out good, but clouds were all about
 us and it was extremely cold and
 wet. Starting down we stopped at
 about 12400 feet and ate our lunch,
 also having an experience with quite
 a familiar ptarmigan, even taking his
 picture. Ptarmigan are said to be
 here, but we saw none, but did see
 one lot of what appeared to be leucis-
 tictes. Moving on down we worked
 in a lush and interesting Hudson-
 ian meadow near Tom-try, getting
 most interesting material. Moving
 on we stopped at about three

places to work, a difficult thing, however, as the slopes were in general far too steep. The sky had in general cleared beautifully and we got several pictures which should be very good. We reached Telluride at 4.45, put up on material, had an excellent dinner and went to bed tired and sore.

? *Leucosticta*. Two flocks above Town-try, about 12200-12600 feet.

Sept 3, 1921. Telluride, Colo + vicinity.

The morning was spent working on both slopes of the San Miguel Valley just east of Telluride, with very ordinary luck, except for a good series of male *Anas*. After lunch we took a machine and drove to Cushman Lake, about 9700 feet elevation, and on the road to Ephraim. We had some wonderful views of Sunshine Mtn., Mt. Wilson (the highest peak in this part of the country) and Wilson Peak. We took an interesting series of *Chloroceryle* and also a number of interesting other things. Several pictures were taken.

Maggie. A number in the road to
Cushman Lake.

Sparrow Hawk. About five seen ditto.
Blue-fronted Jay. Several seen about
Telluride & others about Cushman
Lake.

Sept. 4, 1921. Telluride, Colorado to Mancos, Colorado.

We were up early and left Telluride at
7.15 AM. on the Durango train, bound for
Mancos. From Vance Junction we climbed
steadily to Lizard Head, passing around
the Aphix Loop, alongside of Front Lake
and all the time getting splendid views
of Sunshine Mts., the San Miguel group,
with Mt. Wilson and other elevations,
such as the Lizard Head. We took about
five pictures, of which we have great hopes.
From Lizard Head Pass we shifted from
the drainage of the San Miguel River to
that of the Holmes, and we followed
down this, past Rio and finally into
the quiet little town of Holmes, where
we had a good dinner. The passages
from spruce and aspen to yellow
pine and finally to juniper and piñon
were marked. Leaving Holmes we climbed
probably a thousand feet on a piece
of plateau country with some good

original stand and much promising second growth yellow pine, some of the old trees being extremely large. Mancos itself is on the edge of juniper + piñon coned mesas, with the La Plata Mts. off to the east. Arriving at 3.00 PM., one hour late, we were soon most comfortably installed at the Wrightsman Hotel, and then started out for a brief examination of nearby slopes. Two hours were spent in the field, with good results.

Chippew. One flying, then running along stream on Upper Holmes near Lizard Head Pass.

Blue-fronted Jay. Numerous along Upper Holmes River.

Maggie. Seen as low as upper edge of Yellow Pines on Upper Holmes.

Dusky Buzzard. One soaring near Holmes.

Red-shafted Flicker. One along Holmes River.

Sept 5, 1921. Mancos, Colorado to Durango, Colo.

After a good sound night's sleep in a comfortable bed we were off after eight o'clock on foot, for the hills to the ~~the~~ north of Mancos and of where we worked yesterday.

day. The day was perfect, like the two
 preceding it! We worked on a number
 of slopes, some covered with sage and
 yellow-flowered composites, others with
 pine and juniper forest. As a whole
 it was a most successful morning,
 and we secured important series of
 a number of scarce & particularly
 desirable species. After lunch we
 transported our baggage to the station,
 and left for Durango at 2.50 P.M.,
 fifty minutes late. From Maues
 the train climbs up a steady grade
 to about 8500 feet, or 1500 above Maues,
 getting out of the valley of the Abasco
 and into that of the Animas River,
 which latter is a tributary of the San
 Juan. We stopped at several mining
 mainly coal mining, towns and as
 it was Labor Day, the members of the
 U. M. W. of A were conspicuous with
 red badges - black initials. At Hesperus
 the marshal, fully and conspicuously
 armed, was in evidence on the station
 platform. Arriving at Durango we
 were transferred to the ~~Durango~~^{Stratton}
 Hotel, but no rooms were available
 and we were assigned to two cots
 in a hall alcove. We were thankful
 we had packed all our material

Before leaving Mancos, no facilities were not what one would call satisfactory. We did have, however, a good dinner and we arranged for the holding of a good room for us on our return from ~~Farmington~~ Farmington, New Mexico.

Crows. One large flock in hills north of Mancos - note seemed shorter & more nasal than our crow. !?

Blue-fronted Jay. One in hills at Mancos.

One Aphelocoma. One on low hills at Mancos.

Sept. 6, 1921. Durango, Colorado to Farmington, New Mexico.

After a none too comfortable night on our cots we were up about seven. Morgan had been bitten by a ~~small~~ Cimex, and he waxed indignant to the clerk about it. We had a good breakfast and then went to the station, where trains for north, east, west and south were leaving. The road we were to travel, that to the south, is the only road in the vicinity which is standard gauge, but the cars are narrow-gauge cars placed on standard gauge trucks, and all

addition is bolted on to the bottom steps
 of the cars on ~~the~~ account of the height of
 the trucks. The track is no better laid
 than the narrow-gauge, and its width
 is so poorly gauged that the cars slew
 violently from flange to flange. On
 the way down we thunted freight, filled
 section gangs with barrels and distrib-
 uted a flat car load of new ties on
 about ten miles of road. All of this
 took time, and we were more than half an hour
 late, but we had a Pacific Type Standard
 gauge engine and she made most of it
 up before reaching Farmington. We
 followed down the Animas River until
 it joined the San Juan, the bordering
 mountains turning to hills and
 then to mesas, passing from hard
 rock to a crumbly shale with a hard
 capping layer and in some places with
 the lower strata merely in disarticulated
 clay. The San Juan Valley from Aztec
 to Farmington is well cultivated in
 many places and Farmington itself
 is a really beautiful town, with
 comfortable homes, beautiful shade
 trees, fine orchards and fields of
 splendid crops and wonderful
 alfalfa. We were soon established at

Allen's Hotel, a small but comfortable place, with an accommodating proprietor. Farmington recently had its electric light plant burnt down, so the town has had to fall back on lamps, which is quite an annoyance to its people. After a good dinner we arranged for a machine and went about three miles out to the La Plata River, which joins the San Juan just below the town, and along the hills about a mile above the stream junction we worked for nearly three hours. The environments examined were river flat of sage and "greasewood", saline and alkali grass patches along the water, and the stony slopes and grassy tops of the hills. A number of the things taken were of very great interest, as Meotobryna ferricola, Lepus interior and Onychomys acuminatus. Going back to the hotel at five we had to work hard to get our material prepared & stored before sunset. A good supper filled us both up and then Morgan took the machine to prospect for cecidids, securing a most interesting series of Plagiodontia.

Great Blue Heron. Allen's Slough
between Aztec & Farmington.

Red Shafted Flicker. Blue flying - Animas Valley.

Primm Jay. One calling & flying among
Primm about 15 m. S. of Durango.

Sept. 7, 1921. Farmington, New Mexico to Durango,
Colorado.

After breakfast about 7.20 we left in a
machine to examine the high north-
facing bluffs to the south of the San Juan
River. These are covered with a scattered
growth of relatively low juniper and
pines. The road to the top of the bluff
ran off to the south to the Navajo Reservation,
a government built road we were told,
and it was beautifully graded to the
mesa-top of the escarpment. The upper
strata of the bluff were a crumbly sandstone,
yellowish white in color, carved into
fantastic shapes occasionally by weathering.
The mesa top yielding almost nothing,
except some most interesting views,
and we marched down the slopes toward
the river, collecting at about three
points. As the river flat was neared
we took a pair of the most interesting
thing of the day - a *Drumrotopis* allied
to *D. agrestis*, which we took in 1919
near Ogden, Utah. From the south side
of the river we had the driver take us to
the place up along the La Plata River

where we had worked the afternoon before, and there we spent about half an hour on the slopes, picking up more Lepus and a few other things. Before lunch we prepared and packed our material and at 1.35 P.M. we left for Durango, where we arrived in time at 4.45 P.M. The hotel people had kept their word and assigned us a double room which appeared to be perfectly clean. After dinner letters and scribbling occupied us for some time.

Great Blue Heron. One flying along
sloughs north of Aztec. N.M.

Quail sp. ? but either Gambels or scaled.

One flock flushed near the state line.

Maggies. Several seen near Aztec,
also near Farmington.

Sept. 8, 1921. Vicinity of Durango, Colorado.

Leaving the hotel at 7.50 we travelled north, via a tin buggy, up the valley of the Animas River. We worked first near Pinkerton Hot Spgs, where in our environment of tall bull pines we located an interesting Trimerotropis. The valley bottom is almost entirely cultivated and game work in consequence is almost

restricted to the lower slopes of the
 bordering mountains, the upper
 portions of which are largely cliffs,
 of sheer vertical. Returning down
 the valley a few miles we reached
 near the settlement of Animas, on
 a slope with juniper and sage, with
 much yellow-flowered composites.
 Here we got a short-winged *Agelaius*
 and several other most interesting
 things. Returning to the hotel we
 put up our material, had lunch
 and at 2 P.M. were off again,
 this time down the valley. We traveled
 about four miles to near Carbon
 Junction, where Morgan had seen a
 likely piece of ungrazed bottom land
 yesterday, when we returned from
 Farmington. This we thoroughly
 examined with very good results,
 and from that point we transferred
 our activities to the steep juniper
 and pine covered slopes on the east
 side of the valley. Aside from a single
Lepus the slopes were not notably
 productive. We were back at the hotel
 at 5.50 P.M. After dinner we took in
 the movies.

Lewis' Woodpecker. Several at Pinkerton
 Hot Spgs., flying & also perched
 on telephone poles.
 Western Robin. Several about ranches
 betw. Durango & Pinkerton Hot
 Spgs.
 Magpie. Several ditto.

Sept 9, 1921. Durango, Colorado to Chama, New Mexico
 Up at 7, we breakfasted and left the
 hotel at 8.30. Our train left promptly
 at 9 A.M. for Chama, and we had seats
 in the little parlor car which comes down
 from Salt Lake and goes to Alamogordo.
 It was a beautiful day, such as we have
 been blessed with for nearly a week.
 Among the passengers in our car was a
 Mr. Stearns of Denver, a most interesting
 man whom we had met at the dinner
 table at Durango. He was originally from
 Brooklyn was an egg collector and also
 was interested in Lepidoptera. His bird
 collection is now in the Brooklyn Institute.
 He studied at the Brooklyn Polytechnic
 then graduated from the Columbia
 School of Mines, came west in the early
 80's and apparently is now one of Colorado's
 wealthy men, interested in mines,
 machinery, beet sugar and many other
 things, and in every way a thorough

gentlemen. From the Animas Valley the train steadily climbed to the Florida Mesa, then dropped to the Florida River, then twisted and turned into the San Juan, then up a tributary (the Navajo) then over a high divide and down into the Chama drainage. It later is the agency for the Picavilla Apache Indians, and many of them were around while a number of lizards were in evidence. Some miles to the west of Chama one can see the Cumbres Range running up to the east, a high but not inspiring range with no above timber line peaks. Arriving at Chama at 2.20 P.M. we were soon established in the little Chama Hotel, and had a lunch one of the courses of which was bear meat. We walked off to the west of the town, through ^{open} tall pine forest, across stubble fields and up hill slopes with tall weeds and grasses, getting quite an interesting lot of material, and on the way back secured quite a few Udeopsylla under logs and dead wood ~~up~~ among the pines. We had a really wonderful supper, far more than I could eat. Putting up our material we retired about nine.

1 Red-tail Hawk first view, one flying near Chama.

Sept. 10, 1921. Chama, New Mexico to Los Pinos, Conejos Co., Colorado.

After a good night's rest and a very satisfactory breakfast we walked off to the west of Chama through the bull pine woods, getting a series of Suffusus and also of Udeopsylla. We also swung around into the lower land along the Chama River and worked there in weedy fields and tall grass. Our train to the east ~~was~~ but about 30 minutes late, and we left Chama without a very clear idea of where we were to spend the night. We ascertained that no roads into the Cimbreo pass region existed from the Chama region, and also Morgan had made vain efforts to get the ^{agent} telegrapher at Cimbreo, via the telephone, to take us ^{up} for the night, without success. We left Chama with tickets for Cimbreo, as we knew the train stopped there a few minutes. Morgan branched off, tried further persuasion on the agent, without success, as he had no room, but he said that at Los Pinos, five miles beyond we could get lodging. On the train again we got and off at Los Pinos, where we were delighted to find that two young ranchmen would put us up at their (Jones) ranch. It was a log cabin with a sod-roof, in which

grass was growing, probably the most
 picturesque place in which I have
 stayed. We were soon comfortably settled
 in a good clean room, had a fine
 wholesome dinner and then we watched
 them bringing in the cattle, of which they
 had about sixty head, as well as a
 thousand sheep. It cooled very considerably
 as darkness came on, but not as
 much as might have been expected.
 The elevation of Los Pinos is 9625 feet,
 that of Cumbe 10058 feet, so the difference
 was slight. There is a flat, ^{open grassy} valley nearly
 $\frac{3}{4}$ of a mile wide with rounded
 mountain ridges on each side, which
 rise about 1600 to 1800 feet above the
 valley, with scattered groves of fir and
 balsam, in places solid forest of
 considerable extent. To the west of the
 ranch there heads up the Los Pinos
 River, which is the stream which carries
 the Doltec Gorge. The railroad swings
 around the end of two ridges and
 makes a great loop in the valley. The
 stream is ~~fair~~ ^{fine} for its front. We
 turned in ^{with} two quilts and a double
 blanket on our bed, and we had a
 thoroughly comfortable night.

Sept 11, 1924. Los Pinos, Conejos Co., to Alamosa,
Alamosa Co., Colorado.

We had just as fine and substantial a breakfast, with hot cakes, as we had had dinner the night before. With this settled we started at 7.50 for a climb to the top of the ridge to the southwest of the Los Pinos ranch. The ridge rose in rounded benches and it was impossible to see the top from Los Pinos. The lower section on that side was grassy, with berry patches and scattered fir, and here we found Arabis and fine Melampyris. This was succeeded by a belt of heavy fir and balsam forest, quite dense and with deep shadows and steep ravines, with its upper edge with much dead wind-fall timber. Above this was the rather rounded summit dome, with sharp granite cliffs hundreds of feet high to the south and south-east. These cliffs had long talus slopes of broken rocks and here weeps bleated and marmots whistled, one of the latter being very emphatic in his protests and not at all shy in exposing of himself. A Eutamias chipmunk also frothed around

at the same elevation. The elevation of the summit of the ridge we figured from Cumbeo which was visible just below us, as 11200 feet and from it we could see the full line of the Sanga de Cristo to the east, what we presume were the very ragged Yaita mountains to the north and the Chama Peak to the north-west. The Cumbeo appears to be a deeply eroded & rounded plateau as most of the ridges are of about the same elevation. The vegetation on the summit of the ridge was fir, with branches extending southward, and the wind was very strong and cold. No true timberline conditions were present. We worked back down the slope, past a little lake in which a confident but unidentified wild duck fed in perfect serenity. In the meadows of the valley bottom we found a fine species of *Microtus* present in fair numbers and both before and after lunch we made a very successful search for them. At 2.00 P.M. we started to miscerate, dip and stuff a large batch of material, leaving the packing until evening. In the meantime, the wind had risen, it had turned cold and heavy grey

clouds hung all around. Our hosts
 said it looked like snow on the peaks
 and the start of real fall with them.
 They work the cattle out early in
 October and the valley is under
 many feet of snow all winter. At
 four we transported our baggage
 to the water tank and finally our
 train came along, 30 minutes late,
 but not before several little thunders
 had passed us, we saw a double
 rainbow over the valley and then at
 least a temporary clearing. Running
 down to Antnito was our entirely
 new country to us and when the
 train stopped at the Toltuc Gorge,
 where the Rio Pinos River has cut
 down through 1700 feet of solid
 rock, it was quite a sight. The
 railroad tunnels, twists, almost
 switchbacks with numerous
 snow sheds. We made fair time to
 Antnito, getting there 25 minutes
 late, but we made up sufficient to
 be only 10 minutes late when we
 arrived at Alamosa at 8:20 P.M.
 I was installed in The Victoria Hotel
 we had dinner, packed material
 and turned in, tired out after a
 hard day, but we with much to its credit.

Three-toed Woodpecker. Two in fir forest
at about 10500 feet.

A woodpecker with solid white wing
bars (longitudinal, one on each side)
and a white rump, + yellowish
below (prob. *Sphyrapicus*). At same
point, one.

Several Pine Grosbeaks. Saw reddish
on head & back. Several flocks in
fir forest, apparently migrating.
Very quiet, fluffy birds.

Rocky Mtn. Jay. One in fir forest.

Marsh Hawk. One in Las Pinos
meadows.

Duck? sp. In pond at 10800 feet.
Azure Bluebird. Nested in box on side
of ranch - saw birds.

Sept. 12, 1921. Vicinity of Alamosa, Colorado, and en
route to Pueblo.

After breakfast we secured a Ford and
an Italian-American driver who hailed
from Philadelphia, and who was a most
enthusiastic rooter for his home town.
We went out into a piece of land covered
with *Atriplex* and two rabbit wood
species, one large, the other small. Here we
had good luck and worked for about

two hours, then transferred our activities to a ~~field~~ more sandy environment where we took a fine lot of Agrostis type Trimerostropsis. After lunch we went out to the east, toward Blanca, and worked along the Rio Grande in grass land and several points some distance east of that, in untrampled brush, such as was examined this AM, and also wedy fields. A few interesting things were taken, but nothing additional to the morning's work. We were back at the hotel shortly after four, put up our material, packed, had dinner and left at 8:40 P.M. in the sleeper for Pueblo. Bunnings Owl. One at ~~Blanca~~ Alamosa. Magpie. Several near Alamosa. Brewer's Blackbird. Common ditto. Marsh Wren. One along Rio Grande.

Sept. 13, 1921. Vicinity of Pueblo - en route home. We were up and off the sleeper at 7:10 P.M., quickly getting to the Sail Hotel, getting a room and then a satisfactory breakfast. A few things like laundry, tailoring, mail - drafts occupied some time and then we were off in a machine for the morning

down on the margins of the Arkansas valley. We worked until after eleven at two different points, then returned to town, did preparatory work on the material, had lunch & came off again to the same bluffs we had seen some distance north of where we were this AM. Here we worked for about an hour, then back to Pueblo. Material to prepare - pack, a good thorough personally scrubbing and entire repacking of our bags took us until dinner time. In the evening we went to the movies, strangely in civies, the first for nearly a month and at 11.30 P.M. we boarded the sleeper for Chicago and home.

Barrington Owl. One near Pueblo.
 Owl (faint?) 2 adults - one of im-
 half grown young near Pueblo.
 Mourning Dove. One near Pueblo.

Sept. 16, 1921. Arrived at North
 Philadelphia at 7.29 AM. on "Manhattan
 Limited."



